



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-578, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, and questions or comments on material published in PS. Just write to:

MSG Half-Mast
The Preventive Maintenance Monthly
LOGSA, Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

Internet Address:

<http://www.logsa.army.mil/psmag/pshome.html>

By Order of the Secretary of the Army:

ERIC K. SHINSEKI

General, United States Army Chief of Staff

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Administrative Assistant to the Secretary of the Army
0031201

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-7466. Periodical Postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, LOGSA, Redstone Arsenal, AL 35898-7466.

Issue 578

PS

January
2001

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-578

Approved for
Public Release;
Distribution Is
Unlimited

ANYT-T-THING
IN T-T-THERE ON
H-H-HEATER
P-P-P-PM?

N-N-NOT IN
T-T-TTHIS ISSUE,
B-B-BUT THE **ANNUAL**
INDEX L-L-LISTS AN ARTICLE
IN L-L-L-LAST YEAR'S
N-N-NOVEMB-B-BER
ISSUE.



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Have Your Say



The Army provides you with a lot of equipment—systems, subsystems and components—that requires a lot of PM. That equipment comes with TMs, FMs, TBs, SCs and MWOs that tell you how to use and maintain it.

But those pubs themselves often need PM, and you supply it with DA Form 2028s, *Recommended Changes to Publications and Blank Forms*.

DA Form 2028s let you have your say about incorrect operational and maintenance procedures, misleading or incomplete illustrations, bogus NSNs and part numbers, or new ways you've found to make things work better, easier, or faster.

If you don't send in 2028s, none of your TM PM—improvements or changes—will ever be known. So stop talking and start writing. You'll do yourself and the next guy who uses the pub a favor.

Paper 2028s are in the back of all manuals. You can also send them electronically. Here's where:

CECOM: amsel-lc-leo-pubs-chg@mail1.monmouth.army.mil

TACOM-RI and TACOM: tacom-tech-pubs@ria.army.mil

AMCOM: ls-lp@redstone.army.mil

SBCCOM: amssb-rim-e@natick.army.mil



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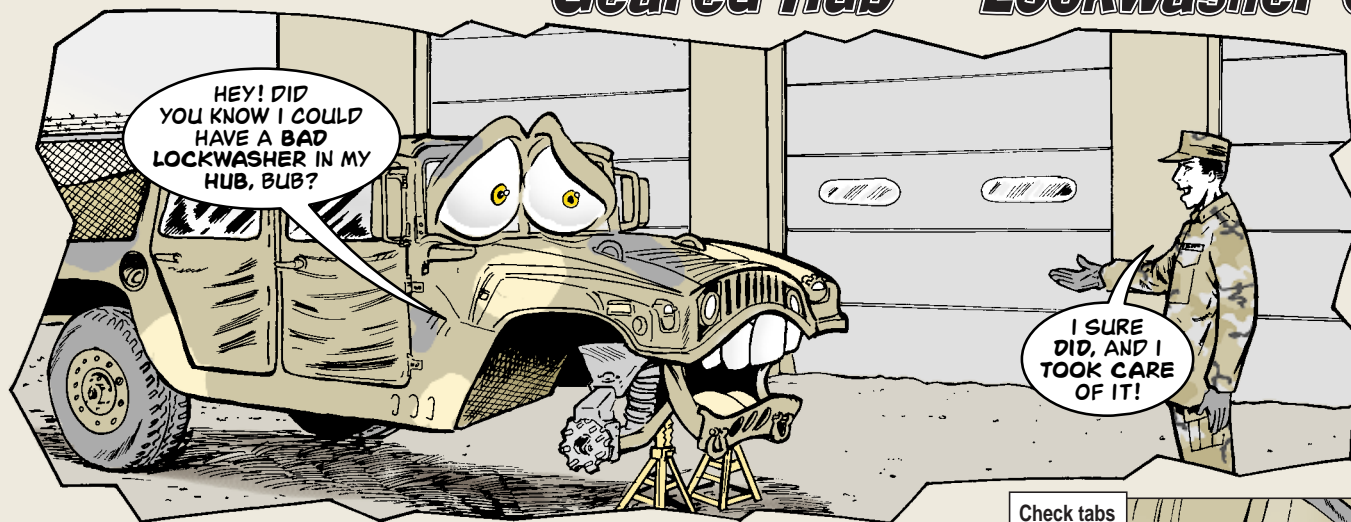
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Geared Hub Lockwasher Check



Mechanics, you know to use geared hub lockwashers only once, then throw them away. But do you know there may be faulty lockwashers on your trucks or in your stock?

TACOM Safety-of-Use Messages (SOU) 00-014 and 00-017 called attention to lockwashers that are too thick to bend properly into the locknut slots. The tabs are also more likely to crack at the bend. The messages deadlined HMMWVs that had not been inspected and had replacement lockwashers installed.

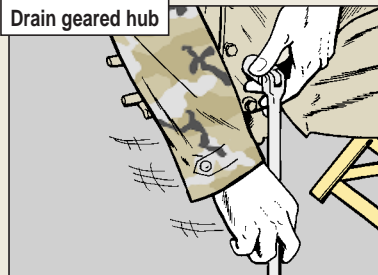
So you should know and you should have complied. Here's why:

Using these lockwashers increases the chances that the locknut will loosen and come off, which could cause a wheel to fall off.

If you have not complied with the inspection criteria found in the SOUMs, or you're not sure if your vehicles are using the right lockwashers, here's what to do now:

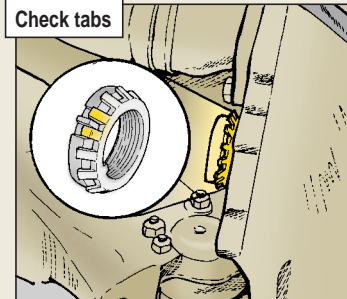
1. Remove each wheel assembly, drain the geared hubs and remove the steering arm covers.

Drain geared hub



2. Clean the lockwasher tab surface and ensure that the bent tabs are flush against the surface of the locknut slot.

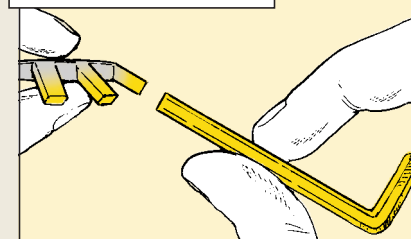
Check tabs



3. Look for cracks or breaks at the tab bends. If you find any cracks or breaks, replace the lockwasher with a new one, NSN 5310-01-213-4185, that is 0.090 (+/-0.010) inch thick.

4. If there are no cracks or breaks, measure the lockwasher's thickness using a 7/64-in hex head wrench. If the lockwasher is as thick or thicker than the hex head wrench, replace it. If the lockwasher is thinner than the wrench, it is serviceable.

Check lockwasher thickness



You can use a known good lock-washer instead of the hex head wrench for testing, but you must know the lockwasher is a good one. You can't just guess.

Compare with good lockwasher



To use another lockwasher to test, match a tab on it to a tab on the lockwasher installed on the truck. If the installed lockwasher is thicker than the good one, replace it. If the installed lockwasher is the same size or slightly thinner, it's serviceable and can be left on the vehicle.

The only other alternative to the inspection procedures is to replace all lockwashers with known good ones.

For details, get your hands on both SOUMs from your local TACOM logistics assistance representative.

Fluid Level Check Changes

Make note, FMTV operators, of these changes to the before-operation checks of hydraulic coolant and fluid:

☑ The daily coolant level check is changed so you don't have to open the radiator overflow tank to see if coolant is somewhere between the lower sight glass and the upper sight glass.

The surge tank level is acceptable when coolant is visible in the lower sight glass. If coolant is not visible in the lower sight glass, fill the surge tank until coolant is visible half-way in the upper sight glass.

Fill the surge tank with an antifreeze/water mix using MIL-A-46153 or MIL-A-11755 antifreeze as shown in Appendix F of the -10 TMs.

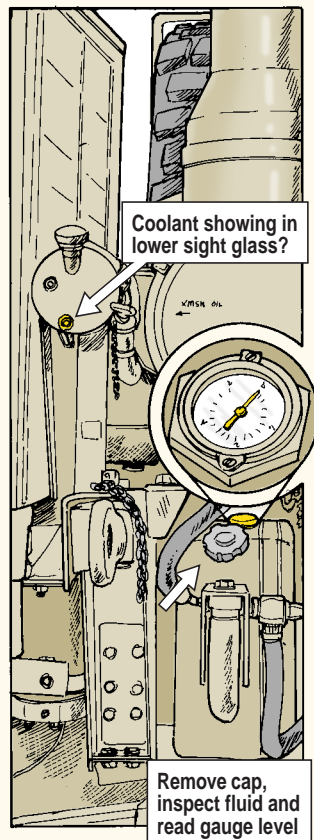
Make note of this change on Page 2-32 of the -365-10 TM for the 2½-ton model FMTV and Page 2-56 of the -366-10 TM for the 5-ton models.

☑ When you make the daily hydraulic fluid check, remove the reservoir cap to inspect the fluid level in addition to reading the level gauge. The reservoir is considered full when the fluid level is visible at the fill port **and** the fluid level gauge reads F (full).

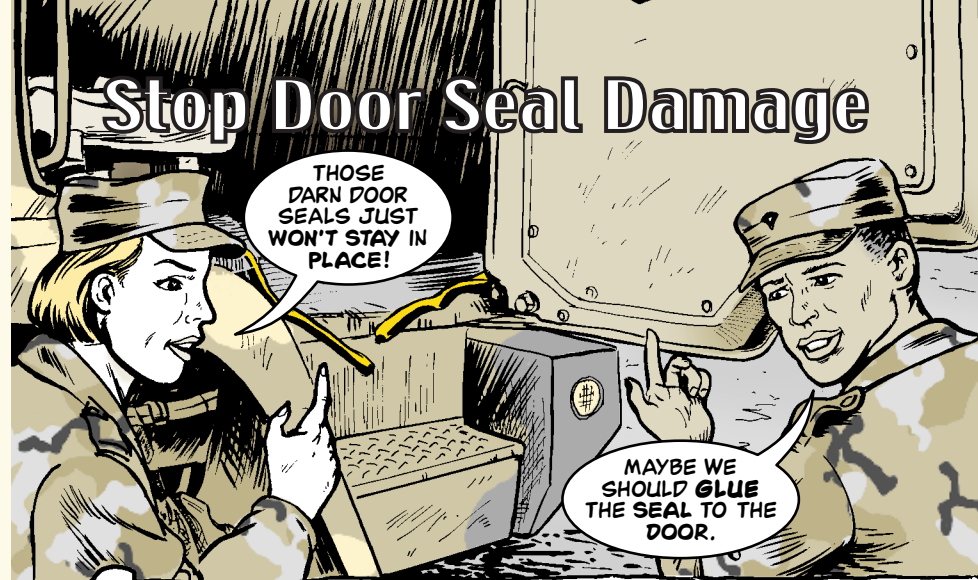
This is a double-check of the level gauge, just to make sure it's working correctly.

Add OE/HDO as required by Page F-3 in TM 9-2320-365-10 for 2½-ton FMTV models and TM 9-2320-366-10 for 5-ton FMTVs. Fill until oil is visible at the fill port.

Make a note of the requirement to remove the reservoir cap and check the fluid level on Page 2-53 of the -365-10 and on Page 2-77 of the -366-10.



Stop Door Seal Damage



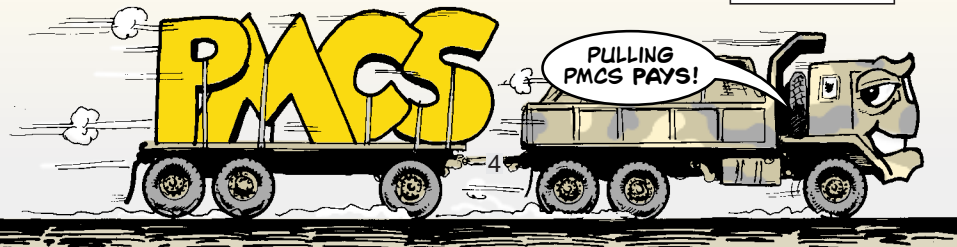
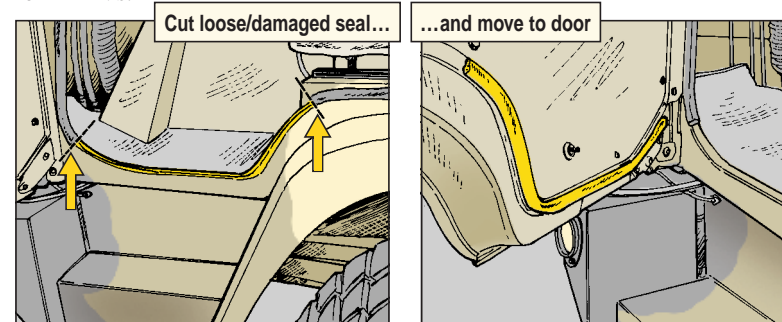
Open the doors on most FMTVs and you'll notice the door seal is pulled loose right where boots are planted when soldiers climb into the cab.

There's not much you can do to keep the seal in place—as it is designed. It just presses into place on the cab.

If all else fails to help keep the seal in place, do a little “designing” on your own.

Cut the seal from the cab and glue it to the door. That way, you still have a good seal to keep out dirt and water, and it's not likely to get booted off.

Use any strong adhesive you have on-hand in the motor pool that can attach rubber to metal. NSN 8040-00-273-8717 will get you a pint of adhesive specifically designed to attach rubber to metal. It is an expendable/durable supply item for FMTVs.



Trucks ...

Mounting the M66 Mount

Some units are unsure where to find info on mounting the M66 machine gun mount, NSN 1005-00-701-2810, on their trucks.

They don't need to be. All the info on kits and parts can be found in the vehicle's -20P TMs. Mounting instructions come with each kit.

Here are the kit NSNs your direct support needs to mount the M66 on the most common large trucks:

M939-series 5-ton: mounting kit, NSN 1005-01-432-3339, and cab reinforcement kit, NSN 2590-01-436-9144

M44A2-series 2½-ton, M809-series 5-ton: mounting kit, NSN 1005-01-226-4589, and cab reinforcement kit, NSN 2590-01-322-2694. (The M35A3 2½-ton truck already has a reinforced cab and just requires the mounting kit, NSN 1005-01-226-4589.)

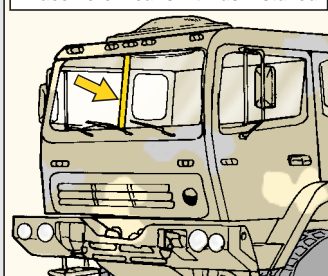
FMTV: mounting and reinforcement kit, NSN 1005-01-381-5431

M977-series HEMTT: mounting kit, NSN 2590-01-220-6377

Unless you install the reinforcement kit when you install the ring mount, the weight of the mount will crack the cab. The only exceptions are the HEMTT and M35A3, which don't need the reinforcement kit.

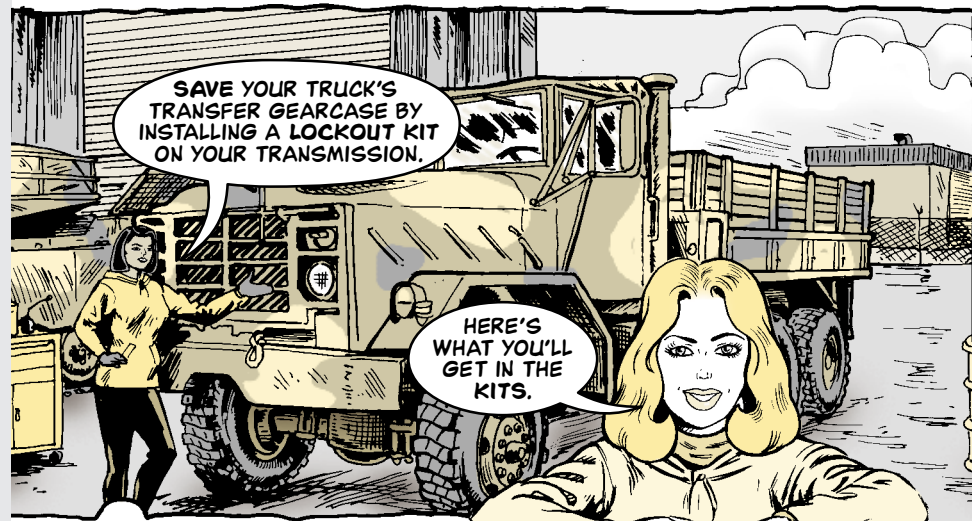
After the kits are installed, unit-level maintenance can replace most parts by using the NSNs in the -20Ps.

Brace here means kit was installed



M939-Series Trucks ...

TRANSMISSION LOCKOUT KIT



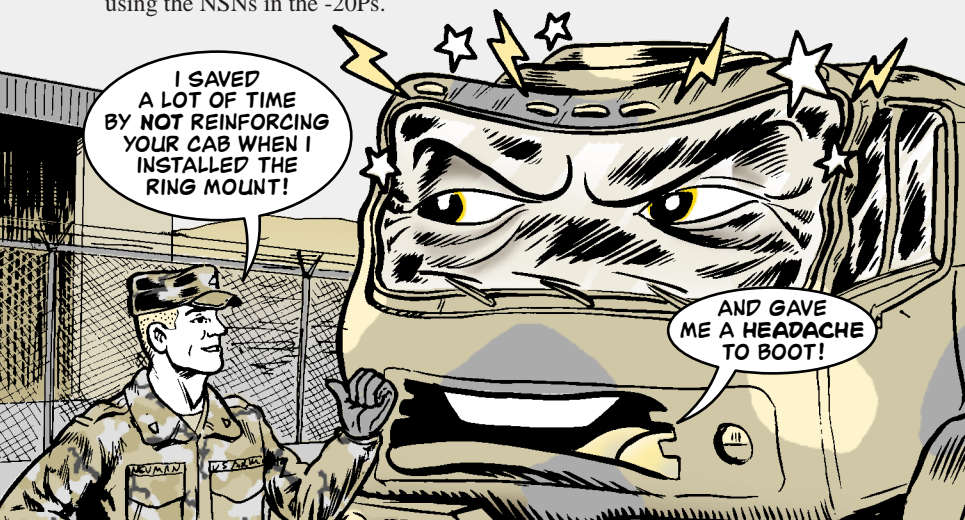
Backing your M939-series 5-ton truck with the transfer gearcase in low range will crack the gearcase.

Drivers are warned about this problem in the -10 TM and every time they get behind the wheel by a warning plate on the dash. Unfortunately, some drivers don't pay attention.

Units can now prevent this costly mistake by installing a lockout kit that will not let the driver put the transmission into reverse if the transfer is in low range.

If you own a basic M939-series or M939A1-series vehicle, use kit, NSN 2520-01-473-2742. M939A2-series vehicles need kit, NSN 2520-01-473-2744.

Part	NSN
Bracket assembly	2590-01-473-2719
Ring spacer	5365-01-473-0415
Ring spacer	5365-01-473-0409
Connecting link (M939/A1 kit only)	3040-01-472-7745
Connecting link (M939A2 kit only)	3040-01-472-7747
Straight pin	5315-00-904-1634
Cotter pin	5315-00-011-9120
Cotter pin	5315-00-012-0123
Plain hex nut (2)	5310-00-891-1733
Straight pin	5315-00-140-1938
Rod end clevis (2)	5340-00-664-7597
Machine bolt (2)	5306-01-123-0891



Keep Bogie

Bottom Clean

With 10 bogies (axles) to maintain, mechanics, what you don't need is damage caused by dirt that chews up brake lines and suspension cylinder seals on your M1000 HET trailer.

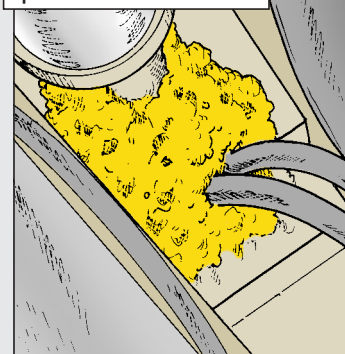
But that is what will happen if your operators don't keep the bogie bottoms clean and you don't keep the suspension cylinder's wiper seal in place.

Each of those 10 bogies collects lots of dirt or mud during operation, mainly because the bottom of the bogie is like a pan. What goes into the "pan" stays there—and turns into a concrete-like substance that wears out the air brake lines.

Operators must make sure the bogie bottoms are free of dirt and mud after

every operation. Pressurized water will remove most of the gunk, but a little elbow grease may be needed to get it all out from around the air lines.

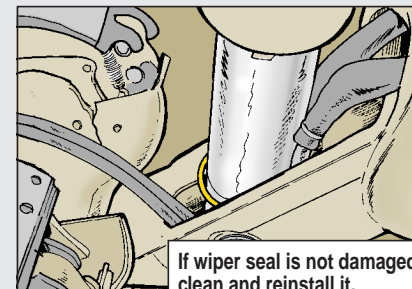
Clean dirt or mud from bogie "pan" after each mission.



As for the wiper seal on the suspension cylinder, it's there to keep the cylinder surface clean and to prevent dirt from scouring the oil seal at the top of the cylinder.

Problem is, field conditions can loosen the seal, so it does no good at all.

So, eyeball the cylinders on each bogie. If the wiper seal is not securely in place at the bottom of the cylinder, look at it closely. If it's not damaged, clean it with P-D-680 dry cleaning solvent, NSN 6850-00-281-1985.



If wiper seal is not damaged, clean and reinstall it.

Then coat the outer metal shell with Loctite or something similar. Then tap the ring back into place in the groove of the packing nut.

Don't let the adhesive dry on the cylinder piston. It'll just attract dirt.

M1070 HET Winch Bracket

The mounting brackets of the M1070 transporter's dressed winch assembly, shown in Fig 216 of TM 9-2320-360-24P, now have NSNs. Get Item 22 with NSN 5340-01-471-0709 and Item 36 with NSN 5340-01-471-0712.

PLS Air Horn

Think your PLS's electric horn isn't loud enough? With your commander's OK, you can now order an air horn kit, NSN 6350-01-460-5600. Installation instructions come with the kit.



WHEN IT COMES TO MAINTAINING YOUR M1000 HET TRAILER BOGIES—THE FUNDAMENTAL THINGS APPLY.

TRAILER BOGIES AND PM. SOUNDS LIKE THE BEGINNING OF A BEAUTIFUL RELATIONSHIP.

Trailer Decking Replacement



Boards pre-cut to full deck length and shaped so they overlap each other are now available in kit form for all M872-series 34-ton flatbed trailers.

For M872, M872A1 and M872A2 trailers, use kit, NSN 2510-01-470-7382. The kit brings 11 boards.

For M872A3 trailers only, use kit, NSN 2510-01-470-9032. The kit brings 13 boards.

Both kits require 600 self-tapping screws, NSN 5305-01-193-2358.

Installation instructions for these kits will be added to TM 9-2330-359-14&P later. Until then, ask your local TACOM logistics assistance representative for a copy of the instructions in TB 43-0001-62-4 (Jan 00) on Pages 9-33 through 9-39.

If your TACOM LAR doesn't have the TB, send Half-Mast your mailing address and he'll send you a copy.

M900-Series Tanker Engines

Once the Onan engine used on your M900-series 5,000-gal fuel semitrailer is no longer repairable, replace it with a Lombardini engine, NSN 2815-01-471-4411. You must use kit, NSN 2815-01-459-0006, to switch out the old engine, which Onan no longer builds. The kit contains frame components and all hardware with installation instructions.

Replace Flap, Tube with Tire



Any time you replace a tire—with a new one or a retread—replace the tube and the flap. No ifs, ands or buts.

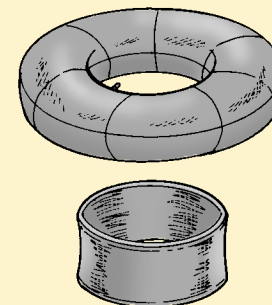
Those old tubes and flaps are shaped to the old tire, just like an old shoe forms to your foot. Over time, the tube stretches to fit the inside of the old tire. It will be too big for the new one.

That means it'll be easy for the new tire to pinch, fold and crease the old tube, leading to a flat.

The same problem looms for the flap, too. That's why every new tire comes with a new flap. Retreads don't come with flaps, so you'll have to get one that'll fit. Check the chart to the left.

Tire size	Flap NSN 2640-	Type
5.70/5.00-8	00-235-9869	Bias
6.00-9	00-535-7509	Bias
6.00-9	00-797-0509	Bias
6.50/7.50-10	00-472-8645	Bias
7.50/9.00-10	00-861-3484	Bias
7.50/8.00/10.00-15	01-254-5392	Radial
6.50/7.00/7.50-16	00-696-0466	Bias
9.00-16	00-208-7541	Bias
6.50/7.00/7.50/8.25-20	00-451-8088	Bias
9.00-20	00-147-5160	Bias
10.00/11.00/12.00-20	00-158-5617	Radial
14.00-20	01-146-8178	Radial
15.00/16.00-20	01-176-4797	Radial
13.00/14.00-24	01-171-2730	Radial
10.00/11.00/12.00-24	00-138-8290	Radial

Use new tubes and flaps with all tire installations



You may get caught in a pinch some day and have to re-use a flap. Always keep a couple of good used flaps on-hand. Give a used flap a good going over, though. Make sure it's the right size and doesn't have any cracks, folds, tears or sharp edges that could damage a tube or tire.

Friend or Foe?

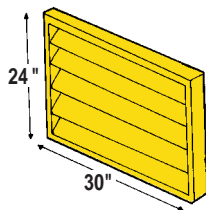
Combat is dangerous enough without having to worry about being shot at by someone on your own side. That's where combat identification panels (CIPs) come in.

What are CIPs?

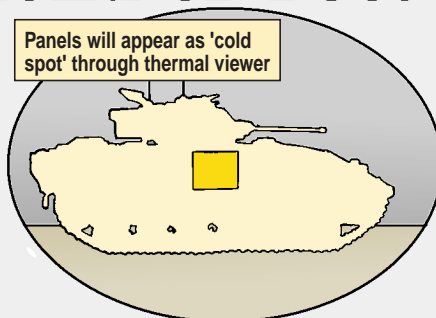
CIPs are 24 x 30-in panels that are covered with a special thermal tape. When mounted on the front, back and sides of a vehicle, the panels are seen as a contrasting "cold spot" when viewed through a thermal-imaging device.

That tells a gunner if the vehicle is friendly or unknown.

CIPs measure 24 x 30 inches



Panels will appear as 'cold spot' through thermal viewer



The panels mount to the vehicle using bolts, hook-and-pile tape, or mounting frames. The back side is painted with CARC, so you can turn the system on or off by simply turning the panels.

How Do You Get CIPs?

CIPs are being fielded initially as free-issue items. They come in kits that include from three to five panels, depending on the vehicle. The kits are available in green or tan to match the camouflage colors for individual vehicles. All mounting hardware is included with the kits.

SHOULD WE FIRE?

WAIT! I CAN'T TELL IF IT'S OURS OR THEIRS!

CIPs Can Tell



AFTER INITIAL FREE DISTRIBUTION, UNITS MUST ORDER CIP REPLACEMENTS THROUGH NORMAL SUPPLY CHANNELS. HERE ARE THE NSNs FOR THE KITS...

Vehicle	Green, NSN 5180-01-	Tan, NSN 5180-01-
M1A1/A2 Tank	394-7838	394-2534
M2A1/M3A1 Bradley	398-5167	398-7198
M2A2/M3A2 Bradley	398-5169	398-5170
MLRS	398-5172	398-5171
M113A2 FOV	398-5166	398-5164
M113A3 FOV	398-5165	398-5168
M88A1 Recovery Vehicle	394-2530	394-2531
M578 Recovery Vehicle	421-7067	421-7060
AVLB	392-1565	392-1566
M992A2 Ammo Carrier	398-5177	398-5178
M109A2-A5 SP Howitzer	398-5176	398-5175
M109A6 Paladin	398-5179	398-5180
SEE	398-5161	398-5163
M9 ACE	399-6773	399-6774

Vehicle	Green, NSN 5180-01-	Tan, NSN 5180-01-
D5B Tractor	400-1810	400-1809
Fox NBC Vehicle	398-5174	398-5173
M1025, M1026, M1043, M1044 HMMWV	398-7193	398-7195
M966, M1036, M1045, M1046 HMMWV	398-7189	398-7190
M996, M997 HMMWV	398-7187	398-7188
M1037, M1042, M1097 HMMWV	398-7191	398-7192
M998, M1038 HMMWV (2-dr cab w/side mounted antennas)	411-2566	411-4393
M998, M1035, M1038, M1097, M1109 HMMWV (w/o side antennas)	406-0481	398-7194
Avenger	398-7196	398-7197

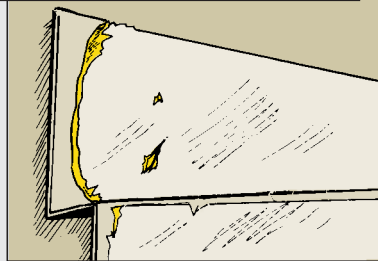
During initial fielding, units are also given a compact disk that provides mounting instructions, an NSN list of individual replacement parts, replacement procedures, care and maintenance, and thermal images of CIP-installed vehicles.

Once you have the CIPs installed, keep them in good shape with PMCS.

Before Operation

- ✱ Eyeball the CIPs to make sure they're securely attached to the vehicle. If you see bends in the CIP brackets, try to straighten them. Report panels that are missing or can't be repaired.
- ✱ Check the painted surface of the panels for damage. Spot paint with CARC if needed. Never paint over the thermal tape.
- ✱ Inspect the panel for loose, missing or peeling thermal tape. Loose tape should be repaired using adhesive, NSN 8030-00-753-5004. Replace missing green tape with NSN 8135-01-390-7410 and tan tape with NSN 8135-01-392-2928. Each NSN brings a 3³/₄-in x 150-ft roll of self-adhering thermal tape.

Repair or replace damaged thermal tape



- ✱ Keep the panels clear of dirt, dust, mud and sand. Use a soft, clean cloth

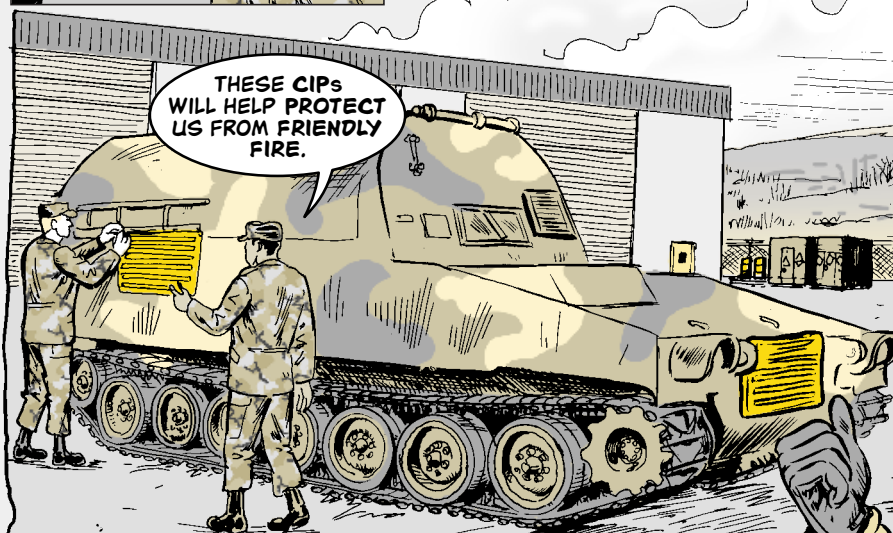
to wipe off the panels. If the tape's covered, you won't project a good image—in more ways than one.

- ✱ If the panels are mounted using hook-and-pile tape, make sure it is securely attached to the vehicle. The tape should be clean and free of debris.

During Operation

When operational conditions allow, make the following checks:

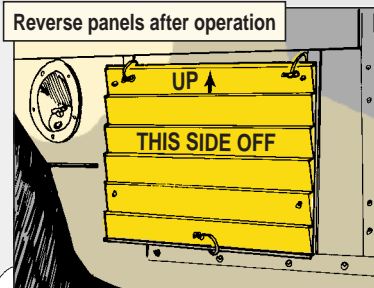
- ✱ Report any missing or damaged CIPs.
- ✱ Replace any missing thermal tape.
- ✱ Wipe the panels with a soft, clean cloth. The panels will need cleaning



more often in dusty environments to ensure a strong thermal signature.

After Operation

- ✱ Report any missing or damaged CIPs.
- ✱ Repair minor damage to the brackets, panels or panel inserts.
- ✱ Replace any missing or damaged thermal tape or hook-and-pile tape.
- ✱ Wash the CIPs with low-pressure water. Then dry them with a soft, clean cloth.
- ✱ Reverse the panels so the CARC side faces out.



- ✱ Remove the panels before washing your vehicle. High-pressure water can knock the CIPs off and damage them.

More Info

User's Guide No 95-3, *Combat Identification Quick Fix Devices*, provides information on training and techniques for vehicles equipped with CIPs. To get a copy, write to:

HQ TRADOC
TRADOC Program Integration Office-
Combat Identification
Attn: ATCD-Q (Mike Brown)
Ft Monroe, VA 23651-5000

Or call DSN 680-3475 or (257) 727-3475. Or send an e-mail to:

brownm2@monroe.army.mil

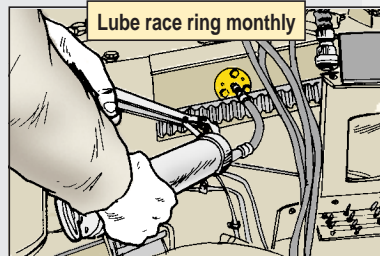
MORE INFORMATION
ON CIP. CALL THE CIP
ITEM MANAGER AT TACOM.
CALL DSN 786-7210 OR
(810) 574-7210.



Lube It and Leave It

Crewmen, without enough lube in the race ring assembly, the turret on an M1-series tank will come to a grinding halt.

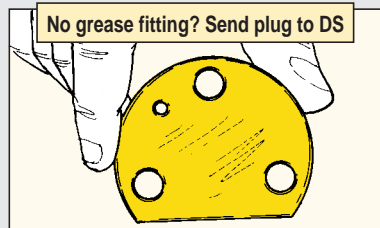
You should lube the race ring monthly, but if you work in an area where sand and grit are a problem, you may need to do it more often.



Some of you are still using the race ring lubing tool made by your support shop. That means removing the ball insert plug in the inner race bearing ring and installing the tool before you can lube.

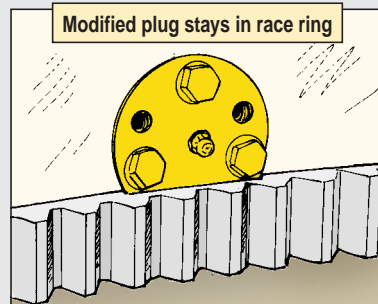
MWO 9-2350-200-30-9 changes all that. The MWO authorizes DS to modify the ball insert plug to make it a **permanent** lubrication fitting.

Take a look at the plug on the inner race bearing ring. If it doesn't have a



grease fitting, get the MWO applied **now**.

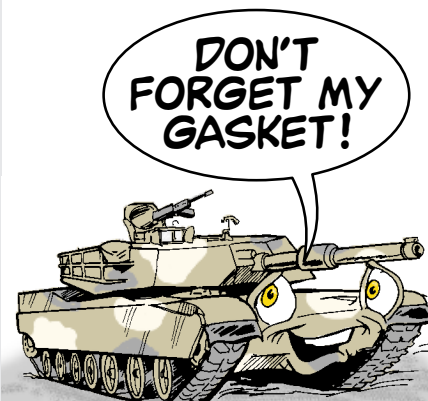
Before you send the plug off to DS, though, tag it with the tank's serial number. That way each tank gets its original plug back. Each plug is machined to exactly match its race ring. Running your M1 with a plug from another tank will damage ball bearings, springs and the race assembly.



Of course, you should lube the race ring before sending the plug off for modification. Just remember to never traverse the turret unless either the lubing tool or the ball insert plug is in place.

If you forget, the springs jam up, the bearings fall out of the inner race bearing ring and the tank is out of commission.

If your tank has the new wire race ring assembly, NSN 1015-01-433-7999, don't look for a ball insert plug. This configuration uses standard grease fittings instead.



Tank mechanics, you've got to plan ahead if you want to replace a bad in-tank fuel pump, NSN 2910-01-341-4647 or 2910-01-083-3153.

The new fuel pump doesn't come with a fuel tank gasket, NSN 5330-01-083-3070. Without the gasket, you won't be able to install the pump.

So plan ahead. Order the gasket when you order the new pump. Then you'll have everything you need to get that vehicle up and running.

Battery Box Cover

Blues

HEY, BIGFOOT!
WATCH YER STEP
FER CRYIN' OUT
LOUD!

BETWEEN THE
BATTERY BOX AND
HIS BOOTS, I JUST
MAY S-SNAP!

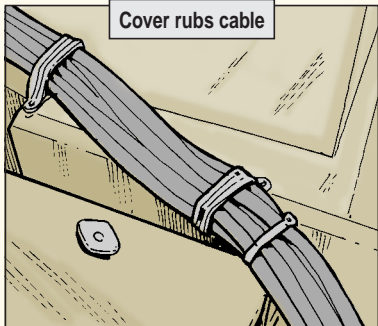
Dear Editor,

Every time we open the MLRS carrier's battery box cover, the corner rubs against the bundle of cables routed next to the box.

Enough of that rubbing will wear through the insulation on one or more of the cables and short them out.

We stopped this problem by slightly rerouting the bundle of cables. Just remove the cable clamp nearest the battery box lid and reverse it. Doing that puts a slight dogleg in the bundle of cables that allows it to clear the battery box cover.

Cover rubs cable

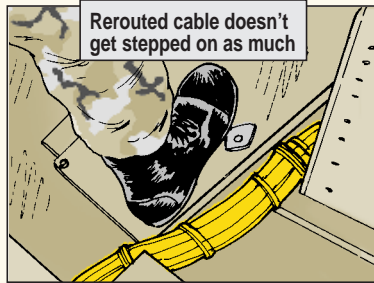


With clamp reversed, cover clears cable



It also eliminates a second problem: operators accidentally

Rerouted cable doesn't get stepped on as much



stepping on the cable when the cab is up. Rerouting the cable gets it up higher and out of the way of those big feet.

SPC Franklin Sullivan
1/21st FA
Ft Hood, TX

FROM THE DESK OF THE Editor

That's one way to keep that cable able! Good job!

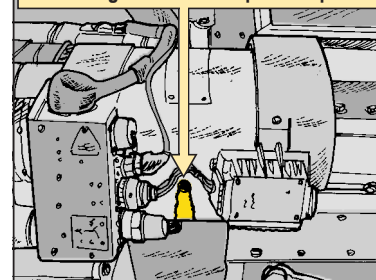
Replace Leaky Packing

If you see oil coming out of the breather port on your MLRS' generator, don't ignore it. Chances are the generator's preformed packing, NSN 5331-01-010-3371, is leaking.

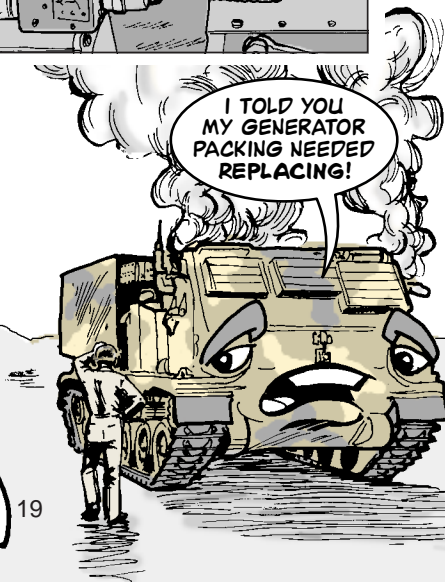
As the oil oozes out of the breather port, it's spread all over the engine by the fantower. That creates a real fire hazard.

Call in your mechanic and have the packing replaced right away.

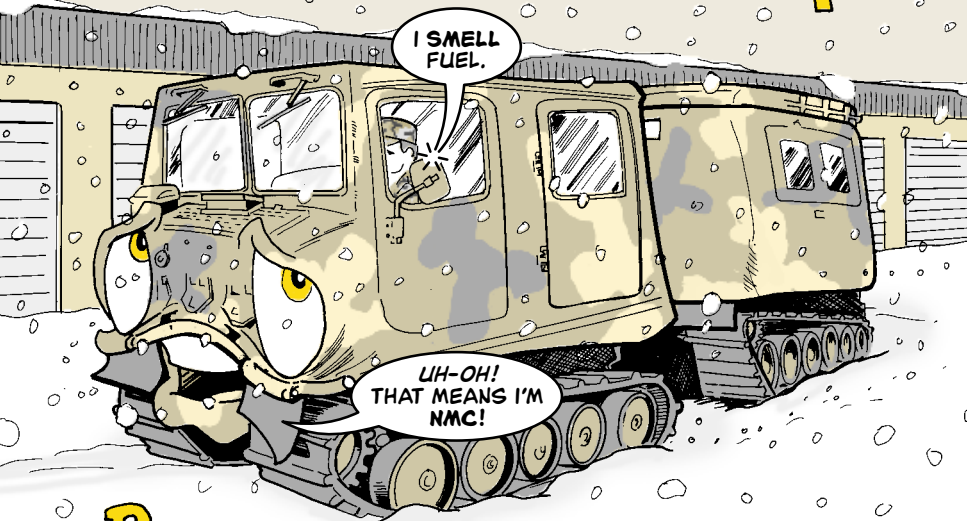
Oil leaking from breather port? Report it



I TOLD YOU
MY GENERATOR
PACKING NEEDED
REPLACING!



Fuel Line Checkup



Drivers, if you smell fuel when you hop into the cab of your SUSV, that vehicle is NMC.

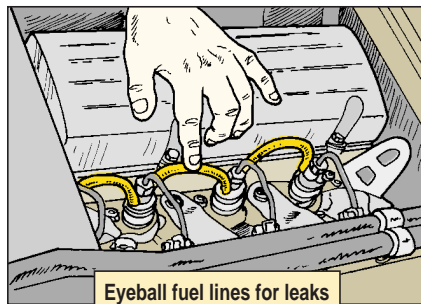
That's the word in a check being added to the PMCS in the SUSV's TM 9-2350-285-10.

A fuel smell means there's probably a fuel leak somewhere in the engine compartment. Any fuel leak—Class I, II, or III—needs your mechanic's attention now.

Mechanics, one area to eyeball for leaks is where the fuel return lines are mounted on top of the engine.

Those lines deteriorate from long-term storage and engine heat. Eventually, they leak. If a line feels wet, or if its protective cover is worn off, the line is shot. Replace it with NSN 4720-01-302-2942.

An upcoming change to the -20 TM will require replacement of the fuel return line during the vehicle's annual inspection.



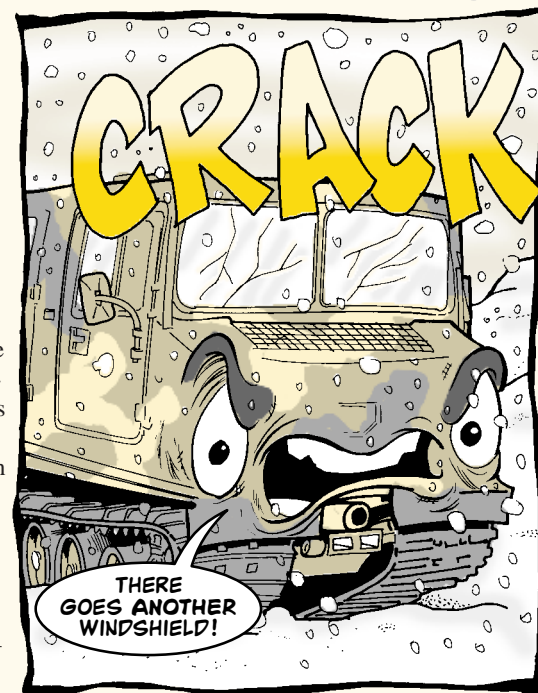
Eyeball fuel lines for leaks

Warm Windshield Slowly

Most drivers will do just about anything to warm up the SUSV's cab in sub-zero temperatures. That includes spending their own money to buy a portable, battery-operated heater.

But there's a problem with those heaters. If you put 'em in the wrong place—like on the console beside you or on the dashboard—the heat that keeps you warm also heats up the windshield. And, when hot air meets extremely cold glass...*crack!*

So, next time during start-up, let your SUSV warm up the way it's supposed to—gradually—with the cab heater.



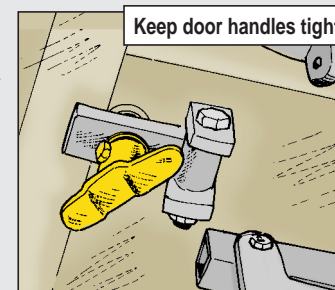
M992A2 Ammo Carriers ...

Get a Handle on Loose Handles

Crewmen, that old enemy—vibration—will do a number on your M992A2 carrier if you forget to tighten down the top center door handles.

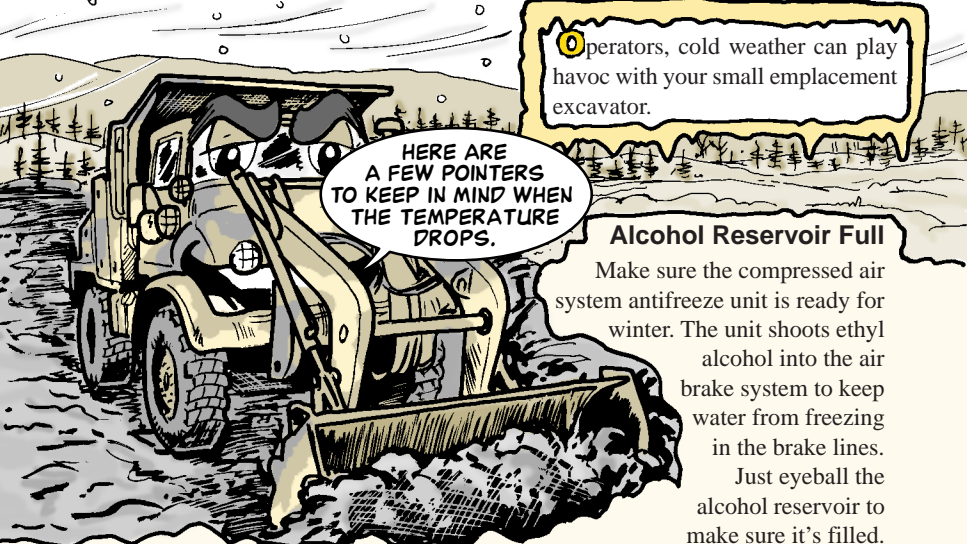
Those handles have a tendency to vibrate loose and turn up missing.

Replace any missing handles with NSN 2540-00-135-6547. Then keep a close eye on 'em. If they're loose, tighten down the handles.



SEE...

Cold Weather Reminders

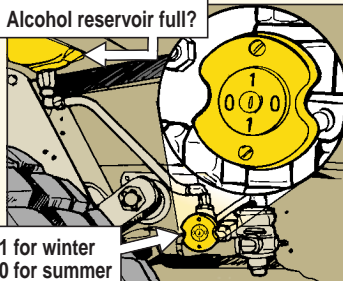


Operators, cold weather can play havoc with your small emplacement excavator.

Alcohol Reservoir Full

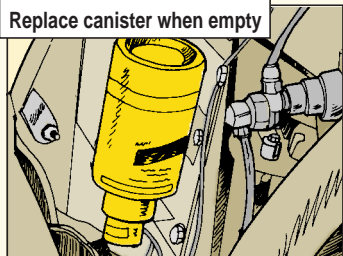
Make sure the compressed air system antifreeze unit is ready for winter. The unit shoots ethyl alcohol into the air brake system to keep water from freezing in the brake lines. Just eyeball the alcohol reservoir to make sure it's filled.

Alcohol reservoir full?



1 for winter
0 for summer

Replace canister when empty



Set for Winter?

Make sure the automatic defrosting pump is set to the number 1 (open) position for winter.

Also, make sure the reservoir is filled—even in summer—so dirt and dust can't get in.

Rough Starting?

Your SEE may be hard to start when the temps drop below 32°F. That's why the cold weather starter system has a fuel canister that automatically injects ether into the engine when you push the cold start button.

If your excavator's engine starts rough after pushing the button, chances are the ether canister is empty. So, have your mechanic replace the canister.

Do **not** use spray-can ether to start the vehicle. Too much ether can damage pistons and connecting rods.

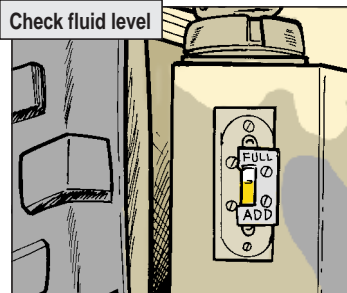
Lowdown on Bucket Slowdown

There's no doubt that cold weather can slow down the excavator's hydraulics—especially the front and rear buckets.

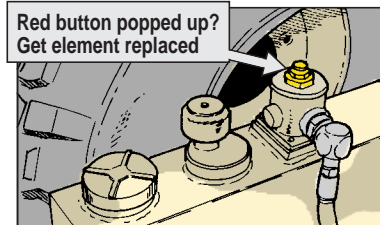
But a bucket that moves slowly or erratically could mean a low hydraulic fluid level or a clogged filter element on a hydraulic reservoir tank.

So eyeball the fluid level on both tanks. The tank for the front bucket is behind the spare tire. The rear bucket's tank is on the other side, behind the cab. Make sure the fluid level is between the ADD and FULL marks on both tanks.

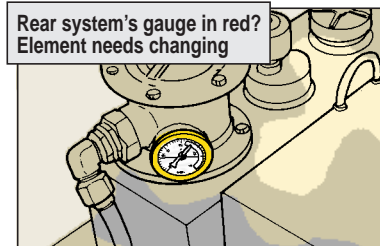
Check fluid level



Red button popped up?
Get element replaced



Rear system's gauge in red?
Element needs changing



The rear bucket's tank has a gauge. If the needle's in the red, you need a new filter element.

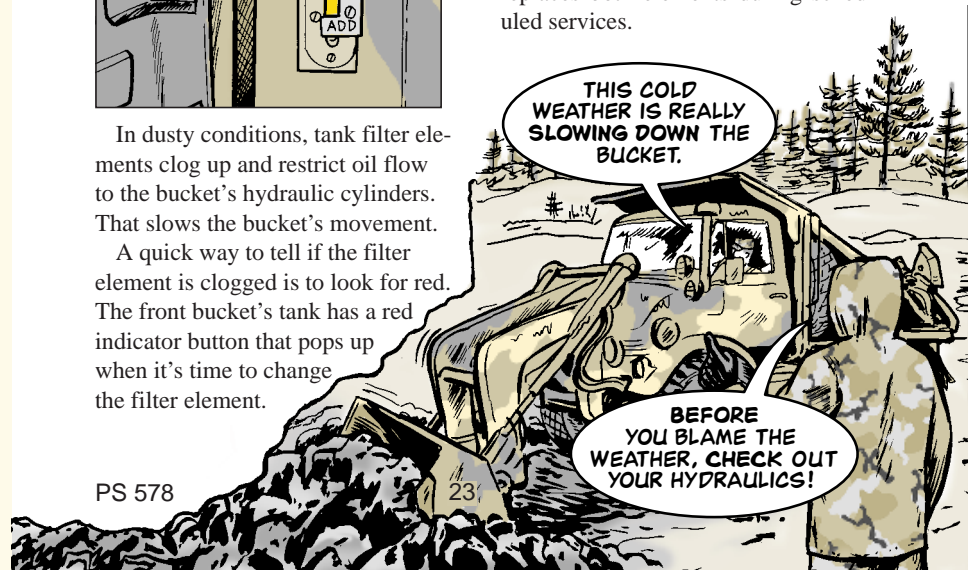
Otherwise, make sure your mechanic replaces both elements during scheduled services.

In dusty conditions, tank filter elements clog up and restrict oil flow to the bucket's hydraulic cylinders. That slows the bucket's movement.

A quick way to tell if the filter element is clogged is to look for red. The front bucket's tank has a red indicator button that pops up when it's time to change the filter element.

THIS COLD WEATHER IS REALLY SLOWING DOWN THE BUCKET.

BEFORE YOU BLAME THE WEATHER, CHECK OUT YOUR HYDRAULICS!



PM FOR DUMPING

Drivers, to keep your dump truck mission-ready, get on a first-name basis with the PMCS in both TM 9-2320-363-10 for the truck, and TM 5-3805-264-14&P for the dump bed. Then key in on these PM tips:

Flaps Up to Dump

Before dumping, be sure to hook up the dump truck's mud flaps.

The hooks are located above the rear wheels, underneath the dump bed on the vehicle's frame. Left unhooked, the flaps get torn off.

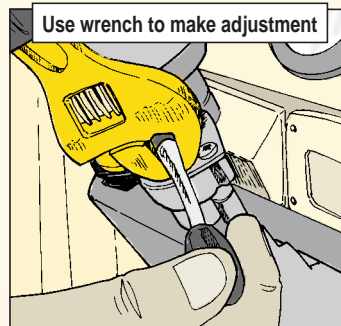
Loose Brake Lever

The trailer brake hand control lever gets a constant workout when you're towing a trailer. Eventually it loosens from moving back and forth. Using a loose lever to brake a vehicle in tow could cause an accident.

So get a firm grip. Here's how:

- Loosen the lever's set-hold nut, next to the steering column. Use the 8-in crescent wrench that's part of the truck's BII to loosen the nut.

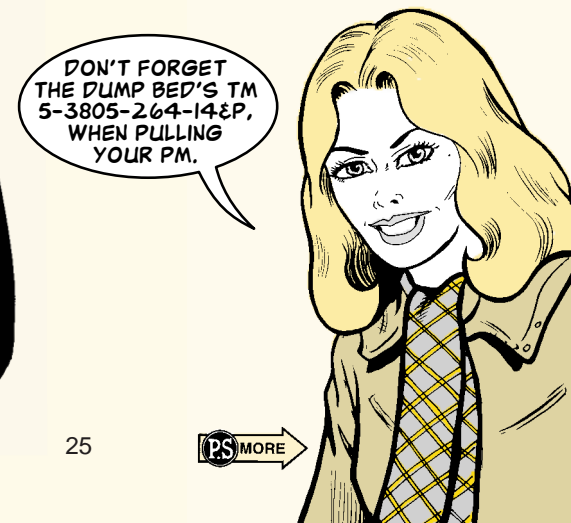
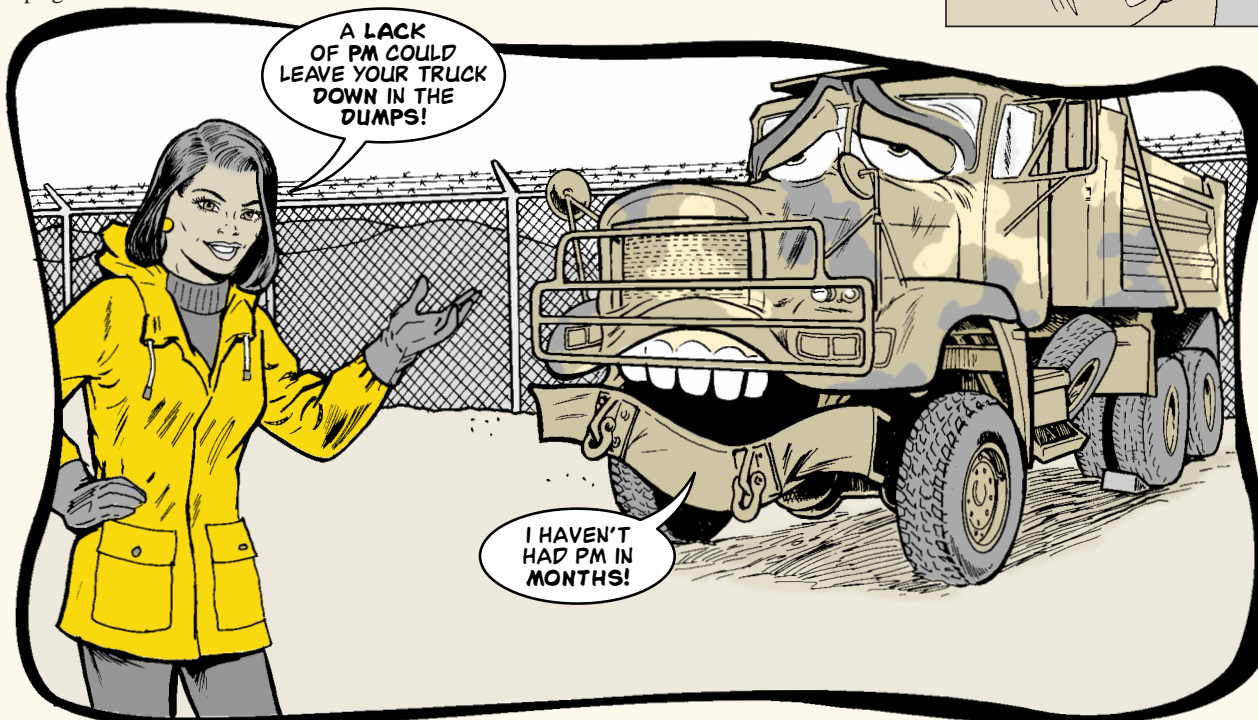
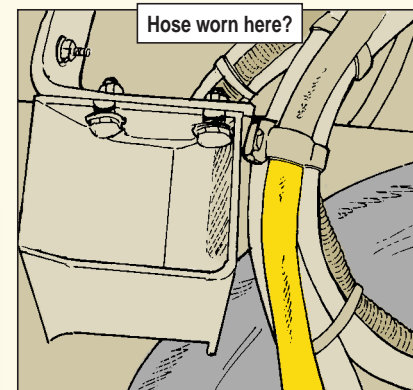
- Position the lever so its bend faces directly upwards.
- Tighten the nut.



Brake Line Rub

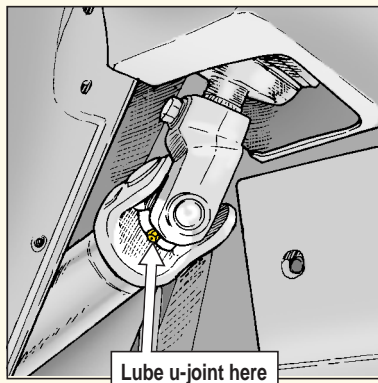
Air line hoses for the air brake chambers are getting a raw deal. These hoses rub up against the dump truck's backup alarm. All that rubbing can wear holes in the hoses, leading to air leaks and no brakes.

Eyeball the hoses for wear marks. If you see any, report them.



Grease Fitting Lowdown

A grease fitting that's often overlooked is the one that lubes the U-joints for the steering shaft spline.



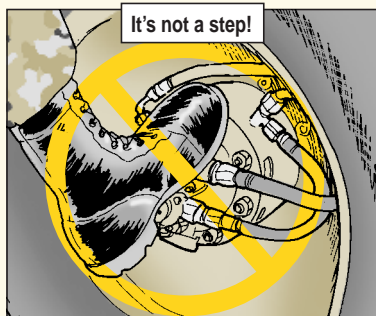
The fitting is "in the dark" because it's inside the cab. It's also hard to find on the vehicle's lube plate.

Forget it, though, and steering just gets harder.

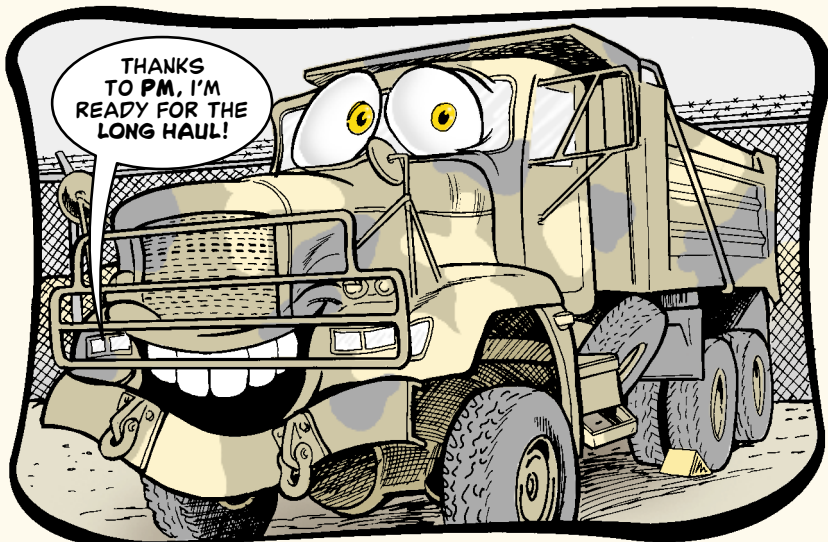
Watch Your Step

Watch your feet around the air inflation extension valves on the rear wheels.

Step on one while climbing onto the truck, and you can break the valve. End result—flat tire.



Have your mechanic use some black CARC paint to stencil NO STEP on the area in front of the valve. The stencils are in the Common shop sets.



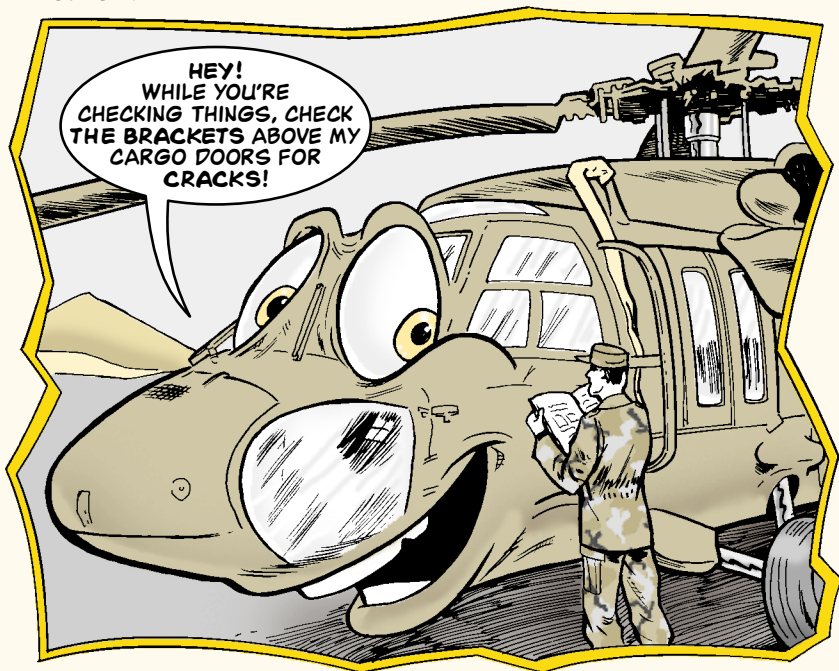
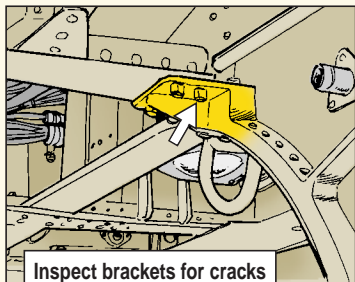
Stress on the Bracket

Airframe repairers, some stress points on Black Hawks are so small and out-of-the way that you might not notice cracks forming.

Two areas to keep an eye on are the brackets above the left and right cargo doors. Over time, the weight of the aircraft and stress of landings cause cracks in those brackets.

If cracked brackets are not repaired, they can damage the area around the brackets, which can affect the way the aircraft flies. So eyeball the brackets during the 10 hour/14 day cabin section inspection in TM 1-1520-237-PMS-1.

Repair any visible cracks using your airframe repairer's tool kit. Repair info is in Para 2-6-10 and 2-6-11 of TM 1-1520-237-23-2.



Fuel Filter Elements

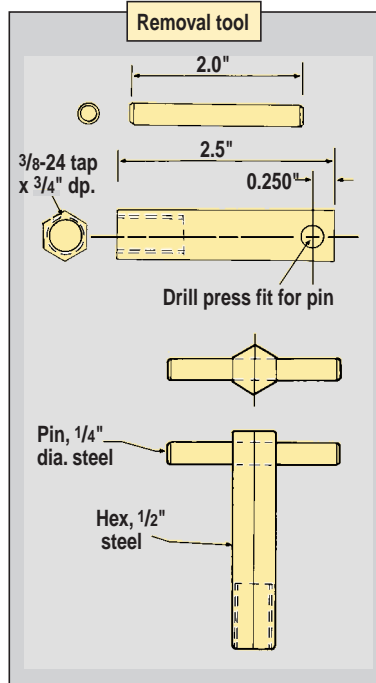
A pache maintainers, Para 10.1 in TM 1-1520-238-23-6 tells you to inspect both engine fuel filter elements and the filter bowls for contaminants after doing run-ups on your aircraft. But removing the fuel filter from its bowl can be a real exercise in damage control.

Para 6-46 in TM 1-2840-248-23 tells you to remove the filter element, NSN 2915-01-094-8577, from the bowl but doesn't say how.

If you've been putting a screwdriver to the filter to pry it out of the bowl, **stop!** You'll damage the threads on the bowl's shaft and on the fuel filter element and seal. Then the filter has to be replaced.

The best way to remove the filter without damage is with an engine fuel filter removal tool, designed by Ray Grimes and Bill Windham with DynCorp at Ft Rucker AL.

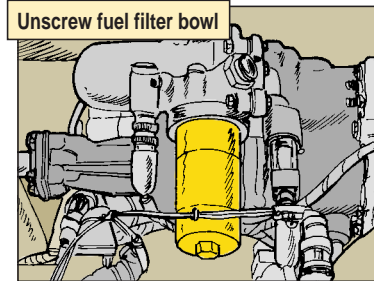
Have your AVIM shop fabricate the removal tool like so:



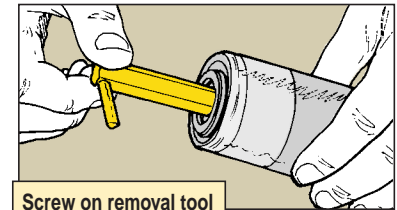
Removal Tool

Here's how to use it:

1. Remove the bowl and filter element from the engine.

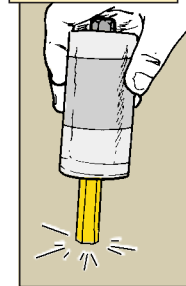


2. Screw the removal tool shaft onto the threaded shaft in the bowl. (Make sure tool is clean. Clean with a lint-free cloth before use.)

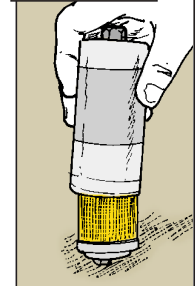


3. Tap the tool on a hard surface and the filter will fall out.

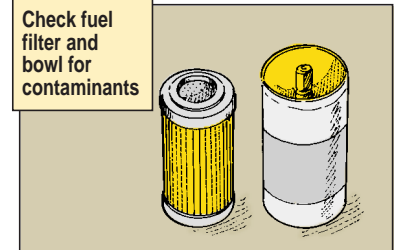
Tap tool on hard surface...



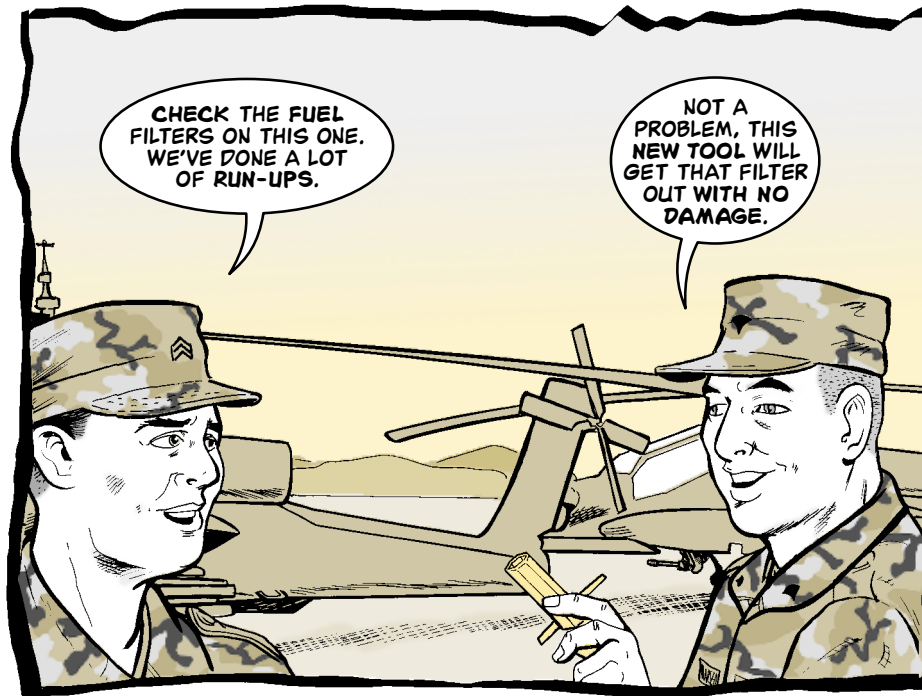
...and element will fall out



Check fuel filter and bowl for contaminants



4. During reinstallation, hand tighten the bowl only.



No Go on JP-8+100

Some fuel additives are good and some are not. Some are **good and bad**. The +100 fuel additive that the Air Force adds to JP-8 is OK for its aircraft, but it's bad for Army ground vehicles and equipment.

The Air Force uses +100 additive partly because it leaves less engine deposits, like carbon, and reduces engine coking. That's good.

But when the +100 additive gets into ground equipment, it lets water pass with the fuel through the fuel filter elements. That's not good because water can damage engines.

The +100 fuel additive gets into Army equipment when it is re-fueled accidentally by Air Force activities or during joint military exercises.

If you suspect +100 contamination, notify the Army Petroleum Center (APC) at New Cumberland, PA. They can tell you how to protect your equipment and how to get rid of the JP-8+100. Contact Del Leese at DSN 977-8580, (717) 770-8580 or e-mail:

dleese@usapc-emh1.army.mil

Fuel Additive

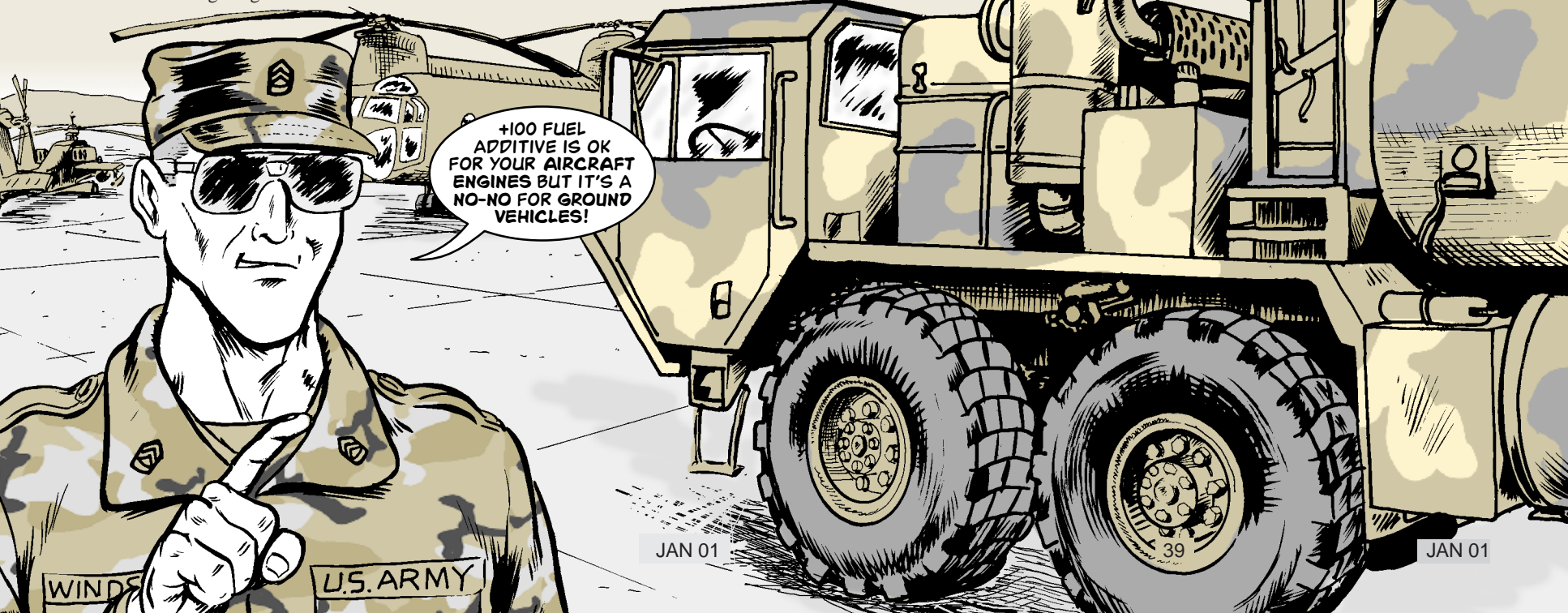
Army aircraft can operate with JP-8+100 with no problems, but must be refueled at least three times with regular JP-8 to dilute the additive's concentration and purify their fuel systems.

If you know an aircraft has the additive, and it must be de-fueled for maintenance, keep that fuel separate. Either put it back into the same aircraft or dispose of it as hazardous waste. Never put that fuel into the bulk fuel storage

system where it can get into ground vehicles.

If you know of ground equipment that already has JP-8+100, de-fuel the vehicle and treat the fuel as hazardous waste. Refuel the vehicle with one tankful of JP-8, use the entire tank, and then immediately replace all fuel filter elements.

This +100 warning is in DA Msg DALO-ZA R141139Z Apr 00.



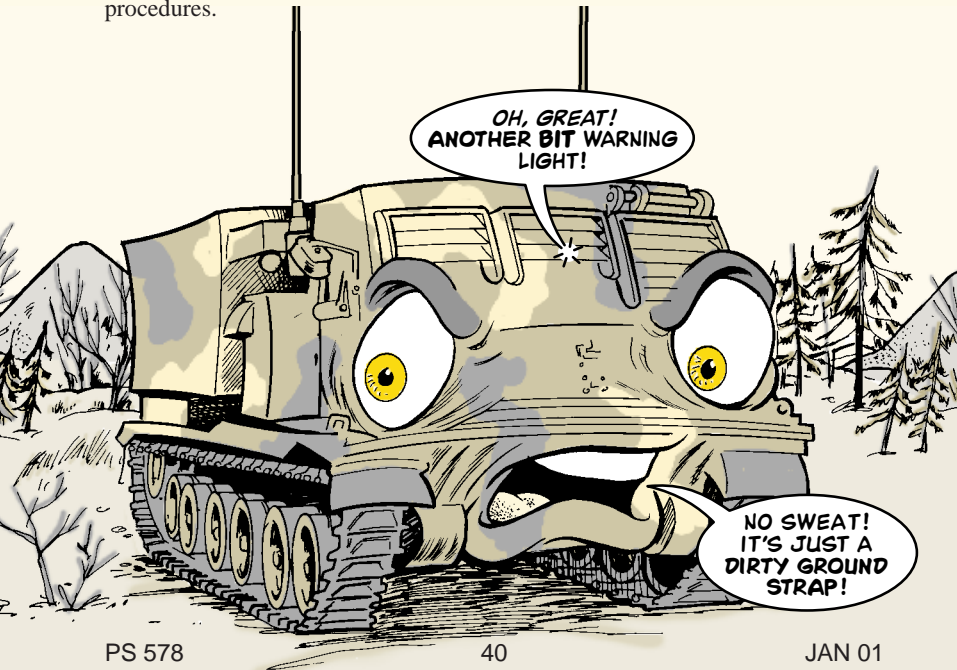
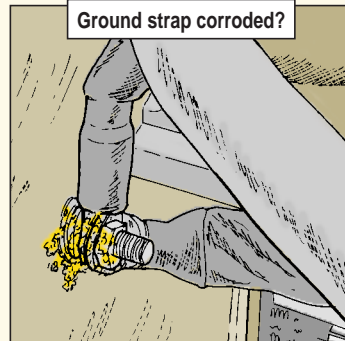
Stay Grounded in PM

Getting a built-in-test (BIT) warning light on the fire control panel of your MLRS is a real drag. It means you'll be spending a lot of your valuable time trying to find out what caused the problem.

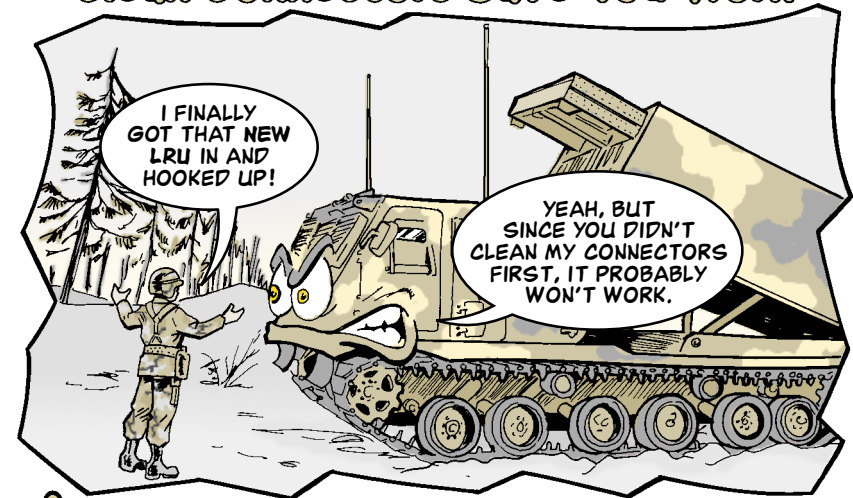
Before you go through any extensive troubleshooting, check the ground straps for all line replaceable units (LRUs). A loose mounting nut or corroded connector means the LRU loses its ground. On comes the BIT light associated with that LRU.

If you spot problems, call in your mechanic. He'll clean and tighten the strap and give it a light coat of varnish, NSN 8010-00-180-6343. That'll keep the corrosion from coming back.

After you reset the fire control panel the BIT light problem should be cleared up. If not, start your troubleshooting procedures.



Clean Connectors Save You Work

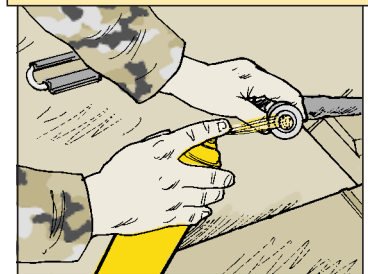
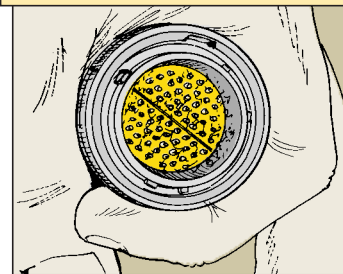


Crewmen, when a line replaceable unit (LRU) goes bad on your MLRS launcher, you have to replace it. Since the LRUs are heavy and hard to reach, it's not much fun, is it?

You can lessen the chance that you'll have to replace the replacement by cleaning the LRU connectors before hookup. Dirt and moisture get inside the connectors and cause faults that shut you down.

Dirt and water can ruin LRU connectors...

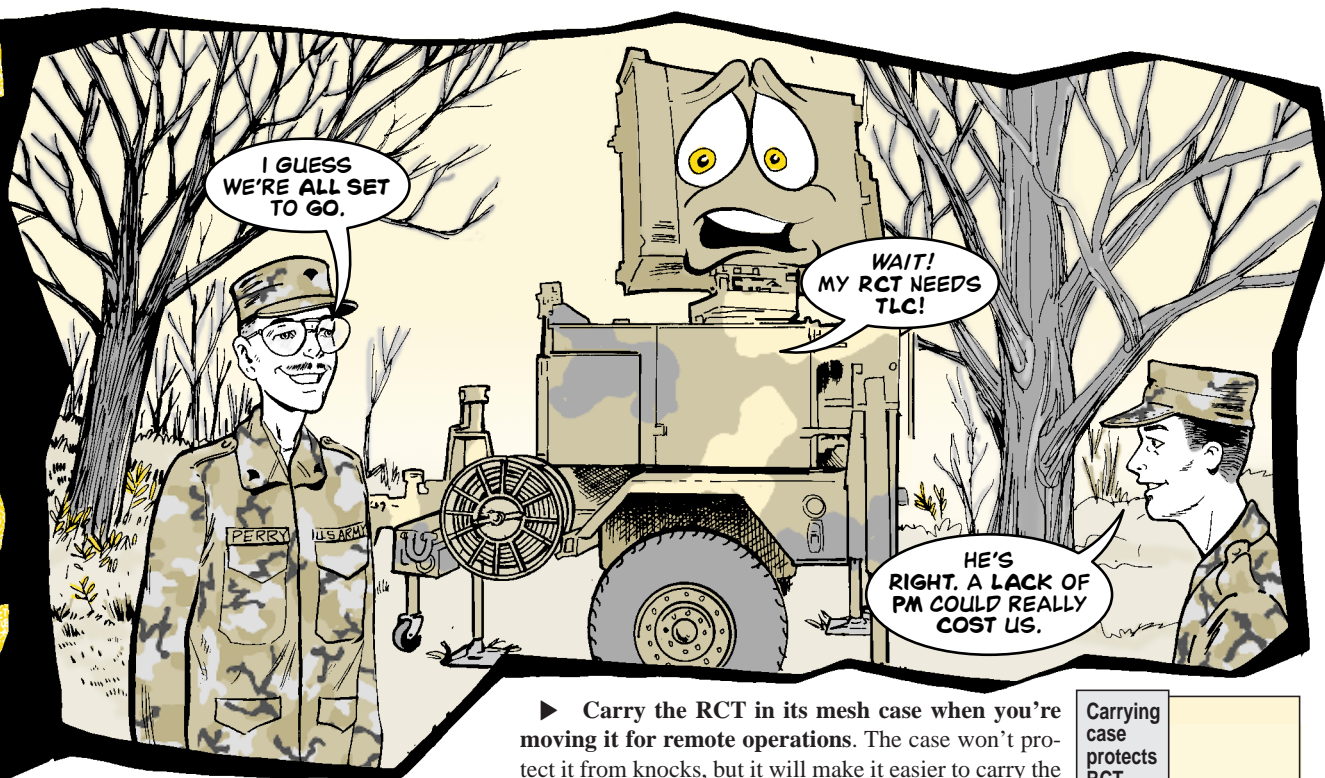
...so clean with electrical contact cleaner



Since the connectors are off anyway, give them a spray of electrical contact cleaner, NSN 6850-01-393-7433. Then scrub them out with a clean cloth.

With clean connectors, those new LRUs have a much better chance of doing their job when you hook 'em up.

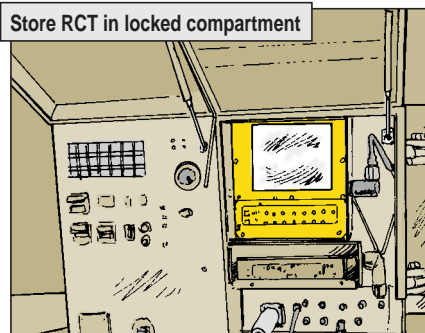
RCT Needs TLC



The Sentinel's radar control terminal (RCT) needs lots of tender loving care. If it doesn't get it, you may need the TLC after your CO finds out the RCT costs almost \$47,000 to replace.

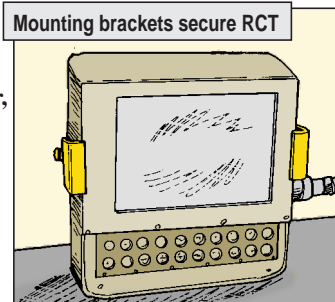
Here's how to keep you and the RCT on safe ground:

► **Keep the RCT in the Sentinel's locked, padded compartment as much as possible.** That's the safest place for the RCT. If you put it in places like the HMMWV equipment storage box or the platoon equipment shed, it probably will be damaged.



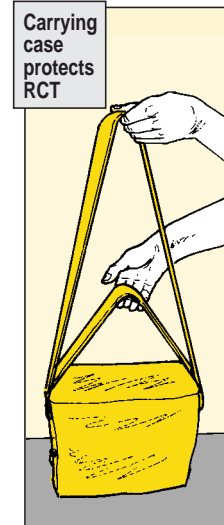
► **Carry the RCT in its mesh case when you're moving it for remote operations.** The case won't protect it from knocks, but it will make it easier to carry the RCT and less likely that it takes a fall.

► **When using the command, control and intelligence shelter, install the RCT in the mounting brackets in the shelter for remote operations.**



That secures it and keeps it from being knocked around inside the van.

Remember that the RCT's flash memory card is classified. Remove the card when you're not operating and store it someplace that meets security requirements.

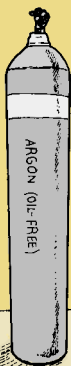


Don't Cry Over Cryogenics

Repairmen will be left crying over the cryogenics in their Avenger, Stinger, Air-to-Air-Stinger (ATAS), or Linebacker missile systems if they miss this PM:

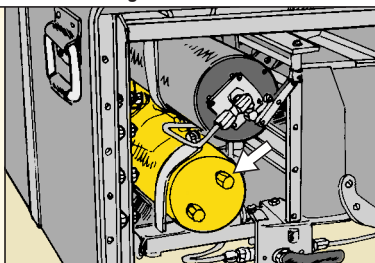
Use only the purest argon gas. NSN 9135-00-882-1793 brings argon that's 99.99 percent pure. That's what your missile system needs. Anything less than pure argon will soon cause the cryogenics to stop working, which means you won't be hitting many targets.

Use only purest Argon



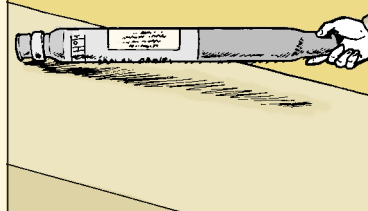
Do the PMCS called for on the 2-liter argon reservoirs in the -23 TMs for these systems...and no more. The reservoirs must be repaired in an antiseptic room under controlled conditions. Otherwise, they'll be contaminated and repairs can only be done at depot. If you spot reservoir problems during PMCS, don't try to fix them yourself.

Do PMCS on argon reservoirs—and no more!



Regularly change the dessicant cartridge in the GCU-31 gas charging unit. Do it every 60 days when you're operating or every 180 days when you're not operating, like it says in your PMCS. If you don't, water vapor contaminates the argon. See Para 6-17 in TM 9-1450-1431-14&P for instructions on replacing the cartridge, NSN 4440-01-249-8864. Remember to give the backup ring and preformed packing only a **light** coat of Type III grease, NSN 9150-00-961-8995. If you use too much, the cryogenics system will clog.

Change dessicant cartridge every 60 days of operation



And don't forget to purge the system after you change the cartridge. Otherwise, the cryogenics will be contaminated.

UH-OH! MAYBE I SHOULDN'T HAVE USED THAT CHEAP ARGON!

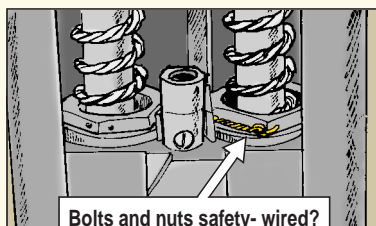
I DON'T GET IT, WE JUST CHARGED YOUR CRYOGENIC SYSTEM!

I DON'T KNOW WHAT TO TELL YOU! I'M HOT AND SWEATY. MAYBE IT'S THE FLU?!

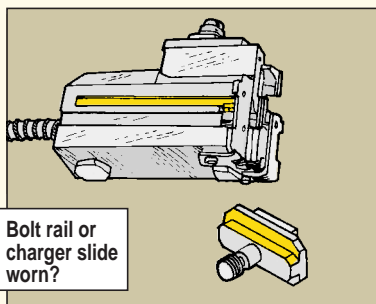
Nuts and Bolts of PM

Gunners and armorers, heed these maintenance tips for easier firing and storage of your MK 19s:

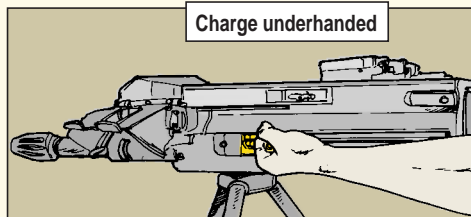
The **bolt** has several nuts that are supposed to be safety-wired. But many bolts are not being re-wired when they're repaired at support. No safety wire means the nuts can work loose and the bolt can come apart. When you do your PMCS, make sure the two nuts that have holes for safety wire are wired. Report all wireless holes.



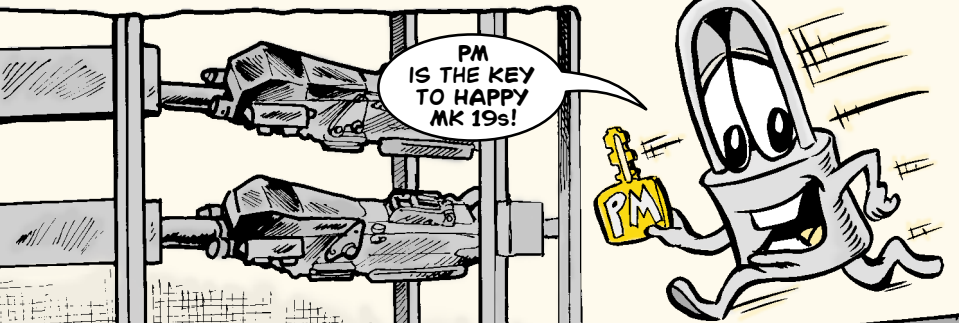
Also check for a rounded or mush-roomed rear bolt rail or a rounded charger assembly slide. An MK 19 that's been fired a lot often has these symptoms, which can lead to a runaway gun. Armorers can replace the slide by following the procedure in Para 2-40 in TM 9-1010-230-23&P. Support replaces the bolt.



Charge underhanded. If you charge with your hands on top of the charging handles, the downward force can bend the receiver rails. Instead, charge with your hands under the charging handles.



The **MK 19 rack** requires a lock with a 3-in shackle that used to be hard to get. But no more! Armorers can now order the lock with NSN 5340-01-408-8434.



GOOD FEEDING

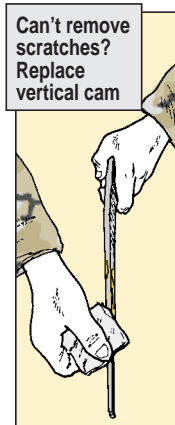


An MK 19 machine gun that won't feed is a gun that won't fire. And too many MK 19s are having feeding problems because their feed slide is out of adjustment. But, armorers, a little adjustment with PM can keep your MK 19s feeding happily.

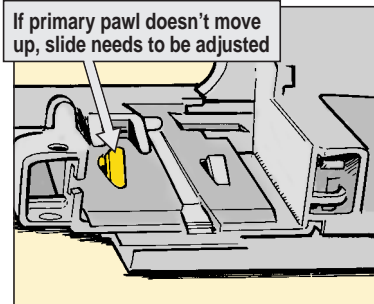
First, check that the feed slide assembly works by doing the function test on Page 2-21 of TM 9-1010-230-23&P. If the feed slide doesn't pass the

test, turn the MK 19 into support for slide adjustment.

If the feed slide passes, it's time to check the vertical cam for nicks, pits, burrs, or carbon build-up from firing. If you can't remove nicks and burrs with crocus cloth and bring the cam surface to a mirror finish, replace the vertical cam.



But even if the feed slide and vertical cam are in great shape, you'll still have feeding problems if your gunners aren't doing the PMCS and lubing spelled out in TM 9-1010-230-10. Make sure they do.



A Dot for Training

Dear Editor,

A few pinholes in the hood of M40- and M42-series masks makes them non-mission capable. But the damaged hood is still good for training, which helps your good hoods last longer.

'Course, you don't want to mix up good hoods with damaged hoods. That could be fatal in a chemical emergency. So we mark damaged hoods with a dot of blue paint on the back of the hood. (Any color will do if it stands out.) That lets you tell at a glance if a hood is good.

CW3 Allan E. Crooks
Command Assistance and Assessment
Team #9
San Antonio, TX

FROM THE DESK OF THE Editor

Just look for the dot. Thanks for the good idea.

Dot on hood? Use only for training

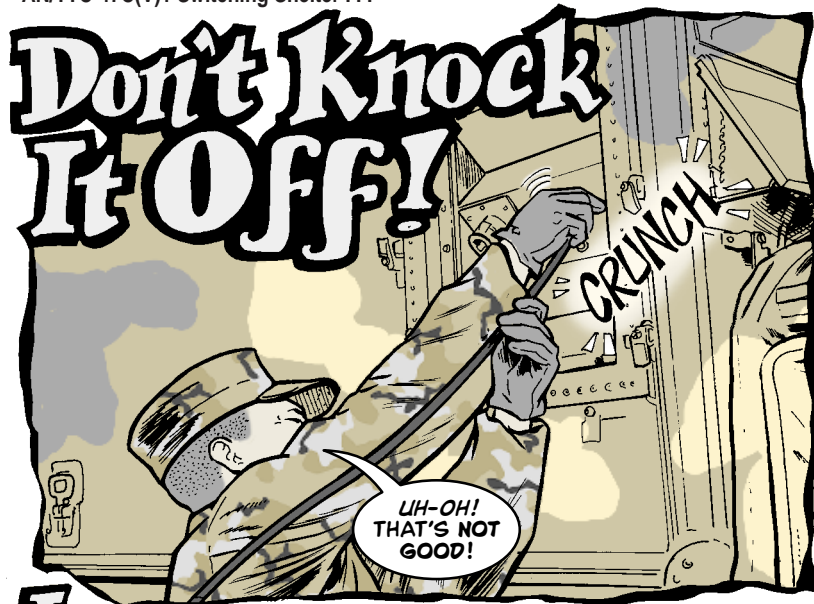


CAM Training Made Easy



The training remedy is the chemical agent monitor simulator (CAMSIM). The CAMSIM simulates CAM/ICAM functions as well as the contamination and decontamination of equipment and people. It also records errors made by the trainee.

The Army is distributing the CAMSIM to a number of post training support centers (TSC). If your TSC hasn't received the CAMSIM—called DVC 03-016—contact the US Army Program Manager for NBC Defense Systems at (410) 436-6574 or DSN 584-6574.



It's late, it's dark and you're beat. But you've got a job to do. You've got to make the cable connections on your AN/TTC-47C(V)1 node center switch.

Your job is to connect the cables from the operations shelter's signal entry panel (SEP) to the switching shelter SEP.

But all you want to do is knock off a few **Z-Z-Z-Zs**. So you hurry and, in your haste, you knock off a few lugs instead.

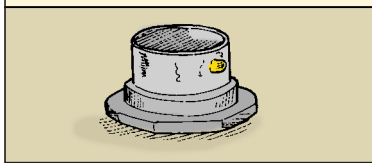
The lugs are on the connectors on the switching shelter's roadside and curbside SEP. The lugs match keyways on your cable connectors. When in place, they give you the path to make the connection without damaging pins and then help lock the connector down.

When you ram a connector on without matching the lugs to the keyways, you break off the lugs. Then you've lost your path and the security for your connection.

So protect the path. When you make the connections, take your time. And use a flashlight at night. If your buddy makes the connections, make sure he has done it before and knows about the lugs.

If a lug is damaged or missing, get your support to replace the receptacle.

Careless connecting damages lugs

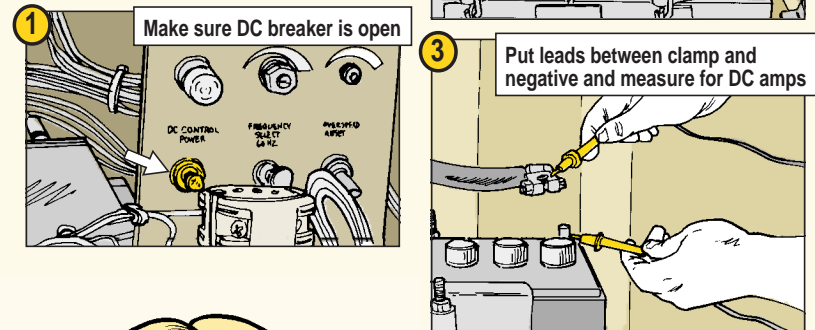


Losing Battery Power?

Are you going through batteries on your 5- and 10-KW tactical quiet generators like food through a goose?

There's a good chance that batteries are dying because current is leaking out through the battery charging alternator circuit.

Do this test:



A reading below 5 milliamps is OK. Above that and you've got a leak problem.

Chances are the problem stems from the diode pack, NSN 5961-01-331-3974 or NSN 5961-01-330-7886, in the battery charging alternator, NSN 6115-01-368-2911.

ONCE YOU'VE DISCOVERED THE LEAK, GET YOUR DS TO CHECK THE DIODE PACK AND REPLACE IT, IF NECESSARY.

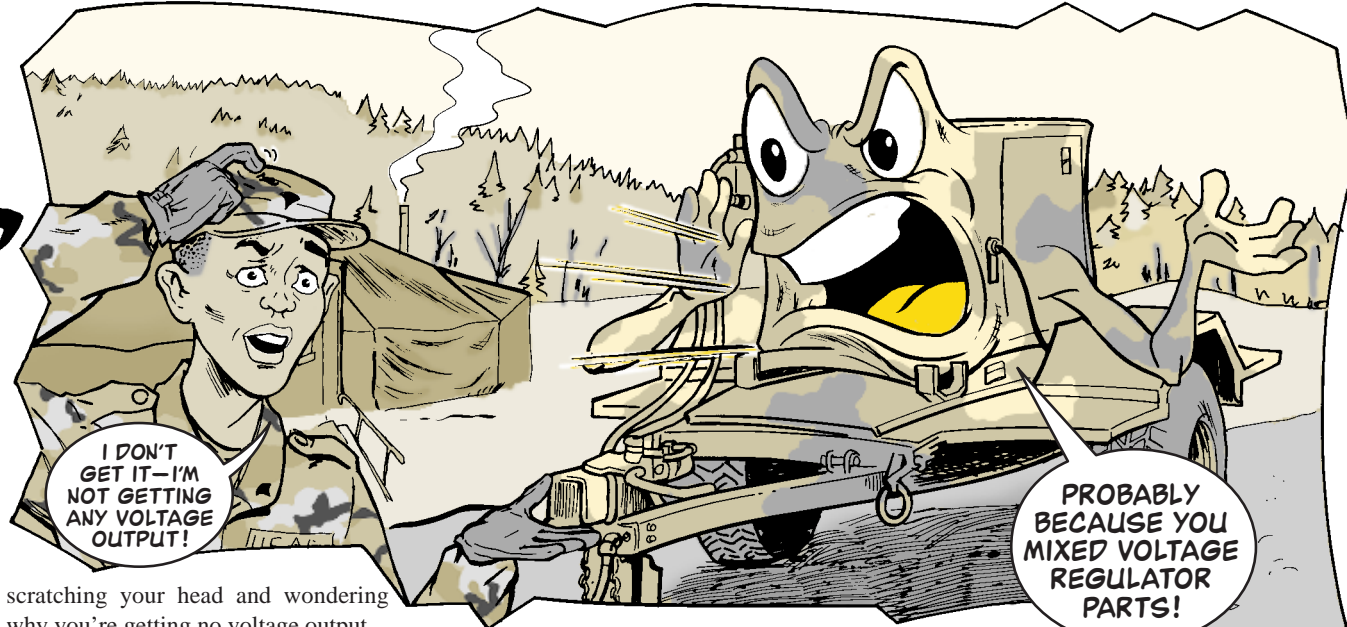


No Mix, Just Match

There are two manufacturers of the voltage regulators used on 60 Hz 15-KW, 30-KW, and 60-KW tactical quiet generators. One is made by Libby and the other by Technology Research Corp (TRC).

Both models work fine, but their individual components—T1 transformer, R1 voltage adjustment rheostat and R16 voltage adjustment resistor—are not interchangeable.

If you mix one kind of voltage regulator with the other's parts, you'll be



scratching your head and wondering why you're getting no voltage output.

Here are your voltage regulators:

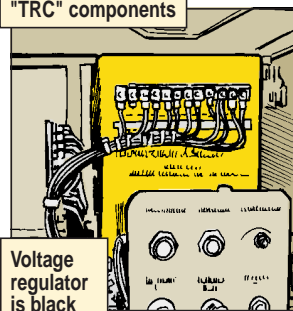
TQG	Manufacturer	NSN 6110-01-
15 KW	Libby	363-0493
	TRC	368-7123
30 KW	Libby	374-0836
	TRC	384-7192
60 KW	Libby	363-0494
	TRC	384-7063

Here are the components that you cannot mix:

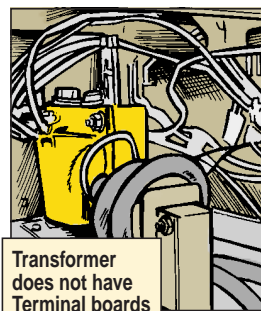
Component	Manufacturer	NSN
T1 Transformer	Libby 60KW	5950-01-407-6597
	Libby 15-,30-KW	5950-01-370-3328
	TRC	5950-01-368-3006
R1 Rheostat	Libby	5905-00-556-3350
	TRC	5905-00-800-6696
R16 Resistor	Libby	5905-00-106-9354
	TRC	5905-01-177-2816

A kit containing the TRC voltage regulator, T1 transformer, R1 rheostat and R16 resistor for the 60 KW can be ordered with NSN 6110-01-477-4851.

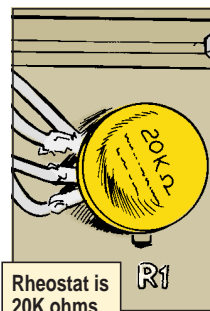
"TRC" components



Voltage regulator is black



Transformer does not have Terminal boards



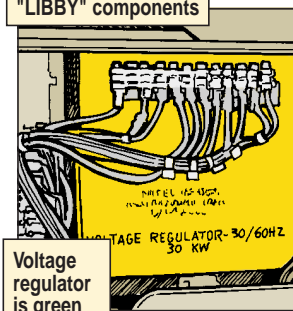
Rheostat is 20K ohms

PS 578

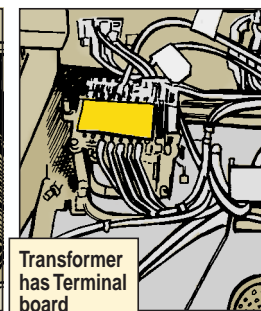
52

JAN 01

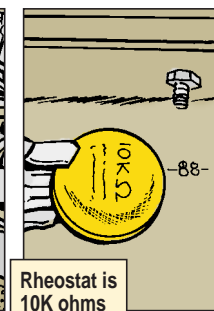
"LIBBY" components



Voltage regulator is green



Transformer has Terminal board



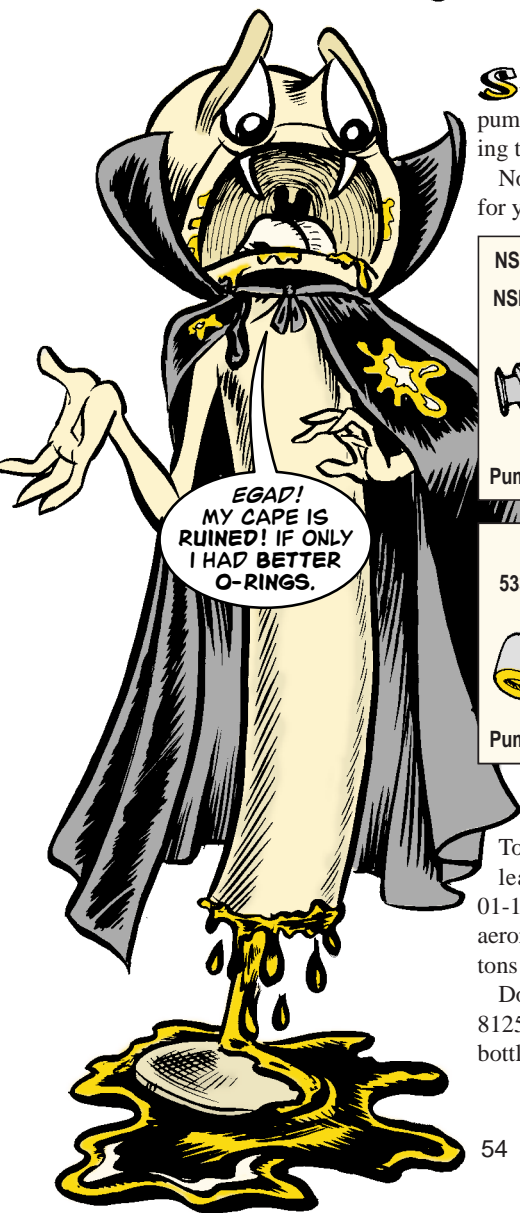
Rheostat is 10K ohms

PS 578

53

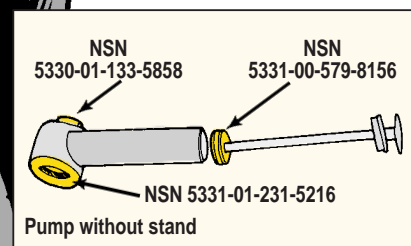
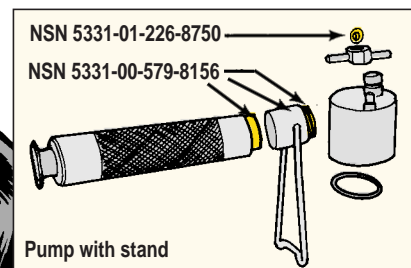
JAN 01

Leaky Pump?



Stop the leaks in your AOAP vampire pump, NSN 4930-01-119-4030, by replacing the O-rings.

Note these NSNs for the correct O-rings for your pumps:



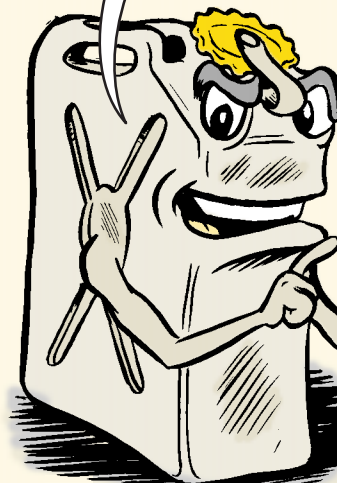
Sampling Supplies

To mail your AOAP samples, use the leak-proof mailing kit, NSN 8125-01-193-3440. You'll get 24 of the non-aeronautical sampling bottles, mailing cartons and plastic shipping sacks.

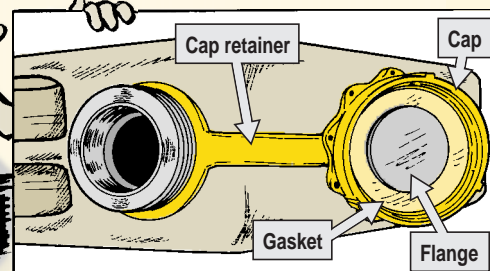
Don't need the mailing supplies? NSN 8125-01-082-9697 brings 120 sampling bottles.

Need Replacement Parts?

LOOKING FOR REPLACEMENT PARTS FOR YOUR UNIT'S PLASTIC FUEL CANS, OR THE CANS THEMSELVES? NO NEED TO LOOK FURTHER.



NSN 7240-01-337-	Description	Color
5269	Fuel can	Olive drab
5268	Fuel can	Sand
5348	Cap	Sand
5349	Cap	Olive drab
5351	Strap, cap retainer	Sand
5352	Strap, cap retainer	Olive drab
5350	Gasket (rubber)	Black
9010	Flange	Olive drab

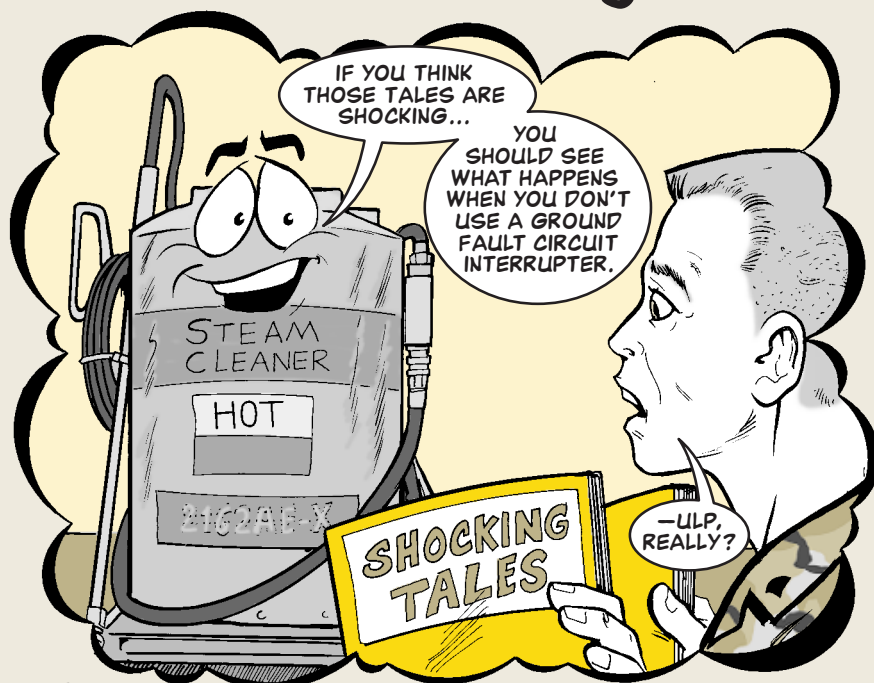


If you have leakage around feed adapters used with your fuel cans, chances are the adapter's threads are stripped. Stop the damage with one of two new plastic feed adapters. Suction feed, NSN 7310-01-455-3736, has a spring-loaded shut-off coupler on the supply line that automatically stops the flow of fuel when disconnected. Plus, when the can is tipped, the vent tube opening keeps fuel from spilling.

The base of the suction feed adapter has a male fitting that mates with the female opening on the can. When you order the suction feed adapter, there is a female quick-disconnect 1/4-in valve coupling that must be connected to the 1/4-in heater fuel line with a pipe-to-hose nipple, NSN 4730-01-230-3602.

The other adapter is gravity feed adapter assembly, NSN 7240-21-912-7162. The base of this adapter also has a male fitting that screws into the fuel can. To use this adapter, you must invert the fuel can and secure it in a cradle assembly, NSN 7240-01-318-5222.

Protect Against Faulty Grounds



Getting shocked on dry ground is one thing. Getting shocked while soaking wet or standing in water is something else.

That's what can happen if your steam cleaner doesn't have ground fault circuit interrupter (GFCI) protection. A GFCI will shut down equipment when it recognizes a faulty ground.

According to Safety-of-Use Message (SOM) TACOM-00-016, all steam cleaners listed below, plus any commercial cleaners or pressure washers, are not fully mission capable unless they have GFCI protection:

NSN 4940-	Nomenclature
00-186-0027	Skid-mounted steam cleaner
00-473-6218	Skid-mounted steam cleaner
01-025-9856	Trailer-mounted steam cleaner

So what can you do to make sure you're protected?

First, make sure the steam cleaner is plugged into a power outlet equipped with a GFCI certified by a licensed electrician.

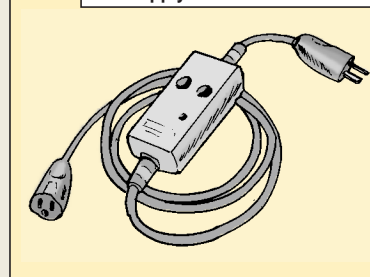
These GFCI systems can be purchased at hardware stores or on the Internet at:

<http://www.squared.com/us/internet/resident.nsf>

Click on Ground Fault Protection.

Second, connect the steam cleaner to an electric supply cord with a built-in GFCI (250V AC or less, single-phase).

Use supply cord with built-in GFCI



You can locally purchase small cords that have a receptacle plug on one end and a GFCI box on the other. This cord can be used between the steam cleaner and the electrical outlet.

Third, attach a tag to the cord that states:

WARNING!
Risk of electrocution. This product is provided with a GFCI built into the power cord plug. If replacement of the plug is needed, use only identical replacement parts. Do not remove this tag.

This tag is required by Underwriter's Laboratory Standard 1776.

You can get an electronic copy of UL 1776 or a copy of the SOM by contacting TACOM-Rock Island's Bob Davidson, DSN 793-6820, e-mail davidsonr@ria.army.mil or Judith Windham, DSN 793-6367, e-mail windhamj2@ria.army.mil or your TACOM-RI logistics assistance representative (LAR). To find the LAR nearest you, log onto the Army Electronic Product Support (AEPS) website: <http://aeps.ria.army.mil>

You'll need a password. Don't have one? Follow the instructions on-screen to get one.

Click on LAR and then LAR Local Service.

USE PROTECTION AND YOU WON'T BE WRITING ANY SHOCKING TALES OF YOUR OWN!



Good Ideas



Submitting suggestions to the Supply and Maintenance Assessment and Review Team (SMART) is smart. Here are some recent suggestions that made lots of sense to the Army equipment specialists.

Name	Suggestion	Recommended Award
CW3 Jeffry Reinke Ft Sill, OK	Delete canvas worker's tool kit from 43-209-series MTOEs	\$1,000
SPC Joel Zinne Ft Carson, CO	Create tool for removing the input module/quill seal on UH-60 helicopters	\$1,000
SGT Dewitt Pigott Ft Polk, LA	Replace drive shaft seal on the hydraulic pump on M1022A1 dolly set instead of replacing the pump assembly	\$2,770
SFC John Gassman San Juan, PR	Add shift lock release kit to TM 9-2320-272-24P-1 and TM 9-2320-386-24P on M939/M939A1-series 5-ton trucks and M35A3 2 1/2-ton trucks	\$250
Peter Kohler Vilseck, Germany	Update TM 9-2350-256-24P-1, Fig 273, to include the cap for the APU air cleaner assembly on M88A1.	\$25
	Change source code from XA to PA on M88A1 in TM 9-2350-256-24P-1, Fig 98, Items 4-6.	\$50
	Add port identification to clarify hand pump procedures in TMs 9-2350-264-2-3 and 9-2350-288-2-3	\$100

Make Cents

Name	Suggestion	Recommended Award
SSG Todd Hughes McConnelsville, OH	Improve protective cap on SINCGARS to keep moisture and dust out	\$500
SGT Andres Chamorro Otis ANGB, MA	Create tool to aid in removal and installation of coupling half-shaft on UH-60	\$1,000
Robert Akin Fresno, CA	Add disk kit, PN 3031741, to TM 9-2815-225-34& P2 for use on the M915A1 Allison HT 754 CRD transmission	\$450
Kari Spinler Johnston, IA	Improve AN/PVS-7 compass assembly to ensure there are no unsecured prisms	\$100
SSG Ricky Miengel Ft Leonard Wood, MO	Place safety stickers on tools and tool boxes to create more safety awareness	\$1,000
SGT James Bisner Ft Bragg, NC	Add a protective cover for the IR ejector on the M56 smoke generator to keep water out	\$150
Brian Miller Johnston, IA	Add testing procedure for low battery indicator light for AN/PVS-7 to TM 11-5855-262-23&P-2.	\$100

Submit your award-winning ideas to:

Department of the Army
Project SMART/TIPS
Dir Cbt Devs for Cbt Svc Spt
3901 A Avenue, Suite 220
Ft Lee, VA 23801-1809

E-mail: SMART@lee.army.mil or submit your idea at their web site:

www.cascom.army.mil/multi/project_smart

For info, call DSN 687-2406,
(804) 734-2406.



CARC...

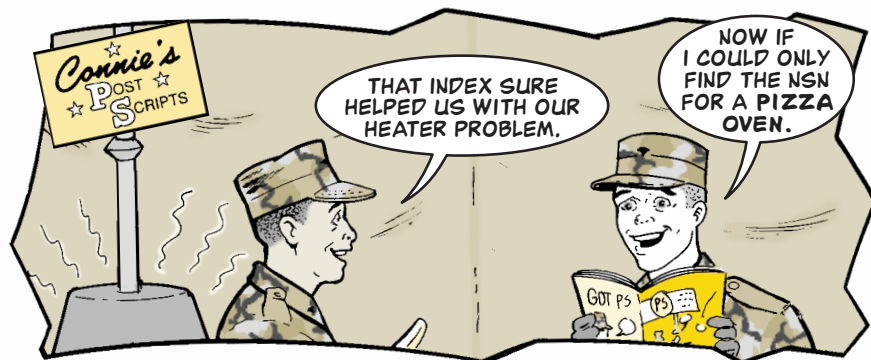
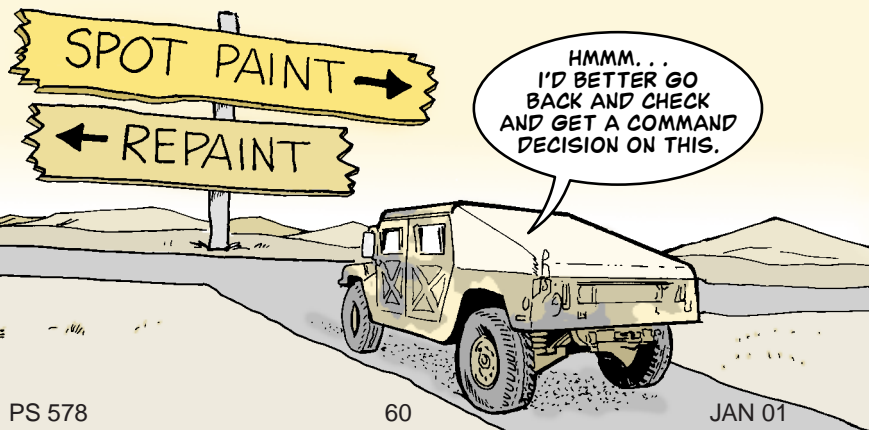
To Repaint or Not To Repaint

That is the question and it's asked often by Army maintainers.

Here are the highlights of the Army's painting policy that's spelled out in DA Msg DALO-AMZ 060808Z Mar 00:

- Use CARC. It's the approved paint coating for all combat and combat support equipment, tactical vehicles, aircraft, and essential ground support equipment and reparable containers, such as engine, transmission and all ammunition containers.
- Repaint only when the present paint is unserviceable or when it's not the right color for contingency missions. Repaint when 25 percent or more of the total painted area on the equipment is unserviceable after review by supervisory maintenance personnel.
- Repainting for uniformity or cosmetic reasons is not allowed.
- Tactical equipment with single-color CARC will be painted with an approved color based on contingency mission environment.
- Total repainting is done at DS, GS and depot levels where OSHA-approved paint booth facilities are available.
- Unit-level painting with a brush or roller is limited to spot painting, and only with CARC paint. Scratches, chips or marred surfaces found during PMCS can also be painted to prevent corrosion.

This new guidance is effective immediately and will be included in the next revision of AR 750-1, *Army Materiel Maintenance Policy and Retail Maintenance Operations*.



Drip Pan and Pad

Need a new pan to catch oily drips from the drain plugs on your combat vehicle? Try NSN 4910-01-211-2195. It measures 36x24x1 1/2 inches. For extra protection against accidental spills, line the drip pan with an absorbent pad. NSN 4235-01-423-1463 gets four 32x17-in pads that absorb oil, but not water.

Longer CVC Cord

Need a longer cord to reach from the AN/VIC-1 intercom junction box to your CVC helmet? Take your choice. DH-132 helmets with the MK-1039/G headset-microphone use the CX-10767/GR 35-ft retractable cord, NSN 5995-00-434-5755. DH-132A helmets with the MK-1697/G headset-microphone take the CX-13037 23-ft retractable cord, NSN 5995-01-136-5973. Appendix A of CTA 50-970 is your authority for ordering.

Volcano OK on FMTV

Change 6 (Sep 00) to the M139 mine dispenser's TM 9-1095-208-10-1 has the mounting instructions to put the Volcano on the FMTV's 5-ton wrecker. Mounting instructions are on Pages 2-110.25 through 2-110.35 in -10-1.

Fire Extinguisher, Bracket

If you need the 5-lb dry chemical fire extinguisher, its bracket or both for your M809 and M939-series 5-ton truck, here's the information:

Extinguisher only:

NSN 4210-01-189-6452

Bracket only:

NSN 4210-01-183-4822

Extinguisher and bracket only:

NSN 4210-01-149-1356

Extinguisher, bracket and hardware:

NSN 4210-01-220-6376

M939 Defroster Assembly

NSN 2540-01-468-1852 gets the defroster assembly for M939/A1/A2-series trucks. The NSN is missing from Item 22 in Fig 551 of TM 9-2320-272-24P-2.

M35A3 CTIS Air Dryer Heater

To get a replacement 24-volt CTIS air dryer heater for the M35A3 truck, order modification kit, NSN 2530-01-465-3170. It contains the heater (28-volt), exhaust shield, lubricant and installation instructions. The heater is not available as a separate item.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

Would You Stake Your Life *right now* on the Condition of Your Equipment?

Got PS?

IF
YOU'RE
NOT GETTING
PS, JUST HAVE
YOUR PUBS CLERK
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